A Separate Personal Income Tax For Ontario:

An Economic Analysis

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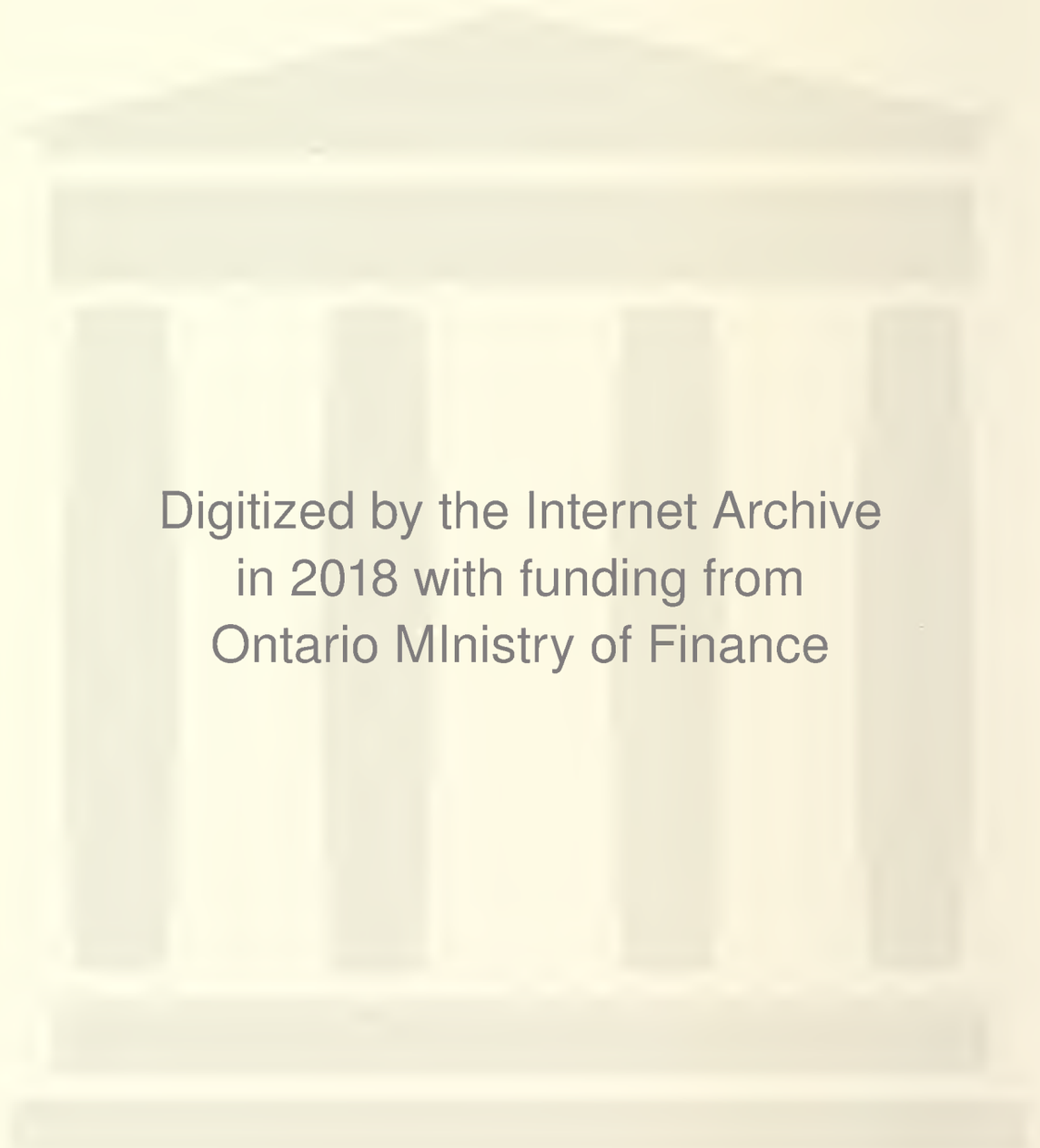
Douglas G. Hartle and others

Ontario Economic Council



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A Separate Personal Income Tax for Ontario: An Economic Analysis

Douglas G. Hartle and others

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This report reflects the views of the authors and not necessarily those of the Ontario Economic Council. The Council establishes policy questions to be investigated and commissions research projects, but it does not influence the conclusions or recommendations of authors. The decision to sponsor publication of this study was based on its competence and relevance to public policy.

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Council foreword

This volume, prepared by Dr. Douglas G. Hartle, constitutes the second tier of the Ontario Economic Council's response to a Reference from the Treasurer of Ontario requesting us to examine the economic implications that would attend a decision by the province to withdraw from the Tax Collection Agreements and institute its own collection system for the personal income tax. Earlier this year the Council published its official response to the Reference: A Separate Personal Income Tax for Ontario: An Ontario Economic Council Position Paper. A final volume of individual background studies, edited by our Research Director, Dr. David Conklin, is forthcoming.

Upon receiving the Treasurer's Reference in June 1982, the Council appointed Professor Hartle of the University of Toronto as Project Research Director. Professor Hartle's role was twofold - first, to assemble and oversee a research team that would prepare the descriptive and analytical material needed to assess the overall question of an independent personal income tax for Ontario and, second, to organize this material into an integrated background volume. While the views in this study are those of Dr. Hartle and his collaborators, and not necessarily those of the Council, this study has provided the basic building blocks for the Council's report. We wish to express our gratitude to Professor Hartle for coordinating and overseeing this challenging task. Our gratitude is all the more sincere and Dr. Hartle's work all the more impressive because, under the terms of the Reference, the volume had to be completed in six months.

Thomas J. Courchene
Chairman

Preface

In his budget of May 13, 1982, the Treasurer of Ontario announced that he had asked the Ontario Economic Council to investigate and report upon the following question: 'What would be the economic implications if the Province of Ontario were to withdraw from the present Tax Collection Agreement with the federal government and institute its own personal income tax collection system?'[1] To fulfill its terms of reference, the Council decided that among other things it would commission some relevant descriptive and analytic studies, which would be embodied in a Report to Council. This report would provide background material to be used in the preparation of the Council's response to the Treasurer's enquiry. The present report is the result.

The work on the report was organized in the following manner: immediately following the announcement of the reference, I submitted to the Chairman of the Council a proposed detailed outline for the report and a suggested plan of operation. The plan envisaged four basic checkpoints. At each checkpoint the Steering Committee of the Council was to be briefed on the progress to date. This briefing would be followed by Council discussion and comment. Given the Steering Committee's agreement, work would then proceed to the next checkpoint. The first checkpoint was to seek Steering Committee approval of the proposed outline and permission to proceed with the selection of contributors. The second checkpoint was a meeting at which each contributor outlined the line of argument that he or she was likely to advance. This step was taken in order to minimize gaps and overlaps. The third checkpoint was Steering Committee consideration

1 From a letter from the Honourable Frank S. Miller, Treasurer of Ontario, to the Chairman of the Ontario Economic Council, Thomas Courchene, dated June 9, 1982. This letter provided the terms of reference under which the Council's Reference has been carried out.

of a first draft in October 1982, and the fourth checkpoint was submission of a second draft at the end of November.

It is a pleasure to be able to say that the work proceeded as planned, with a few unimportant exceptions. The Chairman and the Steering Committee were extremely supportive. Although there were useful suggestions, there was no attempt by any member of the Steering Committee or the Council to apply pressure to alter the contents of the report in any way.

This report is largely the result of the integration of materials provided by several individuals, three professional firms, and some of the staff of the Council. The 'author's' role was something less than the usual role of an author and something more than the usual role of an editor. The design of the report is largely mine, and I assumed primary responsibility for selecting the contributors, determining their contractual terms of reference, and preparing an integrated text with, it is hoped, a reasonably consistent level of discourse and style. Time being a serious constraint, given the Treasurer's deadline, some of the pieces are not as strong as others and the integration of the pieces into a coherent whole is not as complete as it might be. Nevertheless, it seems doubtful that the implications that emerge from the report would change materially even if more fitting and polishing were undertaken with respect to the raw materials and components at hand.

The vague word 'materials' is used advisedly. Several external collaborators submitted drafts that - some (in a few cases) heavy editing aside - have been incorporated in the text with little substantive modification. These include the work of Claude Forget, A.E. John Thompson, Sandra Tychsen, Thomas Wilson, Richard Bird, John Bossons, and Enid Slack. Gail Sinclair and Peter Quance were collaborators who worked in the Council offices under my direct guidance.

Studies prepared by Robin Boadway and Neil Bruce, Samuel A. Rea Jr., Wayne Thirsk, Frank Flatters, John Todd, Douglas Crocker, Peter Dungan, and Sam Bucovetsky were, in many cases, relied upon heavily. In the case of the studies by Boadway, Bruce, Thirsk, and Flatters, for example, much of what appears in the main body of the text on the subjects their studies addressed derives in whole or in part from their work. The work of John Todd and Douglas Crocker appear as appendices.

Contributions were also made by Ronald Hood, Peter Ross, and Aly Sy.

Special commendation must be given to our editor, Alex Scala, who did the impossible - and with remarkable speed. Sheila Richardson's proofreading also speeded up the process greatly.

Administration, word processing, and library assistance, provided by Sharon Wahl, Brenda Huff, Nancy Savoie, and Ann Chin, was expeditious, effective, and unfailingly pleasant. Nancy Cole, who did most of the seemingly endless redrafting on the word processor and assembled the materials, did a superlative job.

It is the intention of the Council to submit virtually all of the substantive background studies undertaken for this report to two independent referees (specialists in the subject matter of the particular study). Studies accepted by the referees (or modified so as to become acceptable) will be published separately in a later volume. It will be edited by David Conklin, Research Director of the Ontario Economic Council.

Douglas G. Hartle
Toronto
November 30, 1982

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Introduction

The existing joint Canada-Ontario personal income tax (PIT) system is almost certainly not optimal in terms of its impact on the realization of the widely shared economic objectives of any jurisdiction, federal or provincial. Now, as at any point of time, the system is the end result of myriad major and minor prior decisions, some of which were based on false premises or reflected compromises that are no longer necessary. If only economic considerations were relevant, one might presume that the federal government would be willing to make all modifications that would further (or, to put it perhaps more accurately, do less to detract from) the realization of objectives common to all jurisdictions, either on its own initiative or upon the request of one or more provinces - or, indeed, upon having the matter brought to its attention without regard to the source of the intelligence. However, should the federal government be unwilling to act, for whatever reason, the existence of the problems created by an imperfect joint federal-provincial PIT system could, under certain circumstances, justify Ontario in proceeding to develop its own PIT system, if only to correct that part of the system through which revenues are currently raised from Ontario residents for provincial purposes.

Assuming that federal intransigence with respect to correcting PIT flaws that hurt all Canadians is not a serious matter for concern, an assumption that is open to question, there still remains the issue raised by the unique social and economic circumstances of Ontario. Because the federal PIT system must apply uniformly across the nation, it clearly cannot reflect unique social and economic geographic-jurisdictional differences. Ontario is unique with respect to its geographic location, its natural resource endowments, its industrial and financial structure, its ethnic population structure, its degree of urbanization, and so on. The same can be said of every other province or region with respect to these

and other dimensions of social and economic diversity.

The Canadian fact of great interjurisdictional diversity, coupled with the need for a uniform federal[1] PIT system across jurisdictions, suggests a possible opportunity for the provinces. Why not have a separate PIT system for Ontario that fully reflects the unique mix of tastes and preferences of Ontario residents and their particular human capital, physical capital, and natural resource endowments? Why settle for less? The province has a separate and unique corporate income tax (CIT) system and a separate and unique retail sales tax system: why not its own unique PIT system?

The adoption of a separate and presumably different personal income tax system by the Province of Ontario would bring additional costs: the additional tax planning and compliance costs of taxpayers and employers, and the additional administrative costs of collection. There would also be the intangible cost of additional uncertainty. Any policy change engenders uncertainty, often before and invariably during and immediately following its introduction. Moreover, successive treasurers would very likely continue to modify the separate Ontario PIT system to suit perceived political, social, or economic exigencies. In other words, a separate Ontario PIT would provide a continuing source of additional uncertainty because it would extend the range of policy instruments.

Leaving aside the potential political benefits and costs of a separate Ontario PIT - benefits and costs that fall outside the purview of this report - the task at hand is to assess whether the potential economic benefits that could be obtained only from an Ontario PIT system would more than offset the economic costs of such a system. Clearly, benefits that could be realized without adopting a separate PIT system cannot legitimately be deducted from the costs.

There are at least two avenues for change that would not necessitate a separate Ontario PIT. These are:

1. modifications in the existing PIT system, which would continue to be administered by the Government of Canada;
2. modifications in existing regulatory or expenditure programs or new programs that would be more cost effective than a separate PIT.

1 Obviously one cannot have a federal PIT system that directly differentiates taxpayers by the province of residence.

In considering the efficiency of a separate PIT as a potential policy instrument for the Government of Ontario, these options must always be taken into account, as must the relative importance of the PIT as a revenue source for the province. Consider the data provided in Appendix IA, which contains ten detailed provincial revenue source tables (in millions of dollars and revenue dollars per capita) for all provinces collectively and for each of the four largest provinces separately. In 1981, about 28 per cent of Ontario's revenue of $16.3 billion was raised by the PIT. The comparable percentage in 1961 was 10 per cent of total revenues of $1.2 billion. (Well over half of the increase over the twenty year period can be accounted for by inflation.) The PIT was far and away the largest revenue source in 1981 (federal transfers accounted for about 18 per cent of revenues). In 1961, by contrast, it accounted for only 10 per cent of provincial revenues, while federal transfers accounted for 26 per cent and CIT for about 15 per cent.

In Quebec, in 1981, PIT raised 41 per cent of the province's revenues. In Alberta it raised only about 15 per cent.

In short, PIT's importance as a revenue source for Ontario has increased dramatically over the last two decades. Moreover, there are currently major interprovincial differences in the proportion of provincial revenues derived from PIT.

There are also two kinds of uncertainty inescapably involved in considering the possible benefits to be derived from a separate Ontario PIT. There is what might be called 'analytic' uncertainty. This is the uncertainty that arises because there is a lack of agreement among acknowledged experts concerning theoretical or factual matters. Ambiguities with respect to the latter arise because data are not available, or are inadequate or give conflicting results when analysed with different and seemingly equally satisfactory methods.

Most crucial tax policy issues are plagued with this analytic uncertainty. Frequently, the answer to a tax policy question concerning the efficacy of a change must be 'we do not know' or 'unproven'. Decision-making about tax matters is a risky business, because there is little or no assurance that the desired results will be forthcoming.

There is also what might be termed 'strategic uncertainty'.[2] Neither

2 It should be acknowledged that David Winch, a member of the Ontario Economic Council, emphasized this important point before the preparation of this report had begun.

Ontario nor any of the other provinces nor the nation as a whole is an island unto itself. All have highly open economies: imports and exports of goods, services, labour, capital, and technology are extremely important. The Canadian common market makes the residents of all jurisdictions materially better off than would be the case if self-sufficiency were the regime.[3] The price is, however, a degree of dependency on or vulnerability to the decisions of other jurisdictions - federal, provincial, and international.

If Ontario were to adopt unique PIT provisions, three kinds of reactions by other jurisdictions could result. The provisions might simply be ignored; they might be emulated; they might be perceived to be attempts at 'province building' at the expense of the residents of other jurisdictions. In the third case, other jurisdictions would likely try to emulate the Ontario provisions or to inflict retaliatory 'punishments' on the residents of Ontario.

These strategic questions are intriguing but intractable. Obviously, the reactions of other jurisdictions would depend upon the details of the provisions adopted and the perception of their likely effects - a perception that might be at variance with the facts.

Such reactions would also depend upon timing and surrounding circumstances. About all one can say is that PIT provisions that were likely to have a significant negative effect on the residents of other provinces would also be likely, sooner or later, to provoke retaliatory moves that would offset or more than offset any benefit that Ontario might gain from them. 'Zero sum games' often become 'negative sum games': the struggle for bigger shares of a pie usually wastes some of the pie.

This report therefore makes the assumption that the Government of Ontario would only consider PIT structural provisions that would be of no particular interest to other jurisdictions or that would be emulated but with no disadvantage to Ontario residents - although in practice it might be difficult to differentiate these alternatives. 'Ontario building' at the expense of those outside the province is ruled out as an option in this report.

In 1961, per capita personal income in Ontario was $1,954, while the national average was $1,651, as is shown in Appendix IB. The equivalent

3 Carried to its logical extreme, this line of argument leads to at least a North American common market.

estimate for British Columbia, the province with the next highest per capita personal income, was $1,897. Twenty years later, in 1981, per capita personal income in Ontario was $12,386 (more than half of the increase being accounted for by inflation), national per capita personal income was $11,520, and two provinces were ahead of Ontario - Alberta ($12,779) and British Columbia ($12,538). On a per capita personal income basis, Ontario's relative economic position has clearly deteriorated. Much of Canada's secondary manufacturing is situated in Ontario and many of these industries are in trouble, automobiles and agricultural machinery being notable examples. Ontario's resource industries are depressed: world prices are low and in some instances relatively cheap supplies (e.g., pulp, wood) are no longer available. Ontario has no petroleum. And one could go on. To make matters worse, many of the other provinces are engaged, with various degrees of intensity, in 'province building' that threatens Ontario's future economic well-being. An argument can be made that Ontario needs its own separate PIT system as a retaliatory threat: other provinces would be less likely to adopt a 'beggar-thy-neighbour' policy if there were a high probability that their moves would be offset or worse (although this seems more relevant to corporate income tax provisions than to PIT provisions, except with respect to the effect of PIT on interjurisdictional flows of investment income).

The same can be said about Ontario's need for bargaining leverage on tax and other matters vis-à-vis the federal government. As will be discussed in Chapters 1 and 2, there is no doubt that the federal government has behaved preemptively and imperiously toward the provinces with respect to tax questions. Changes that have had immediate and substantial negative effects on Ontario's revenues (and the revenues of other provinces) have been made without notice, much less consultation. (There have, of course, been other federal PIT changes that Ontario and other provinces have resisted for non-revenue reasons.)

Whether the potential but uncertain benefits flowing from a separate PIT conceived of as a credible retaliatory weapon vis-à-vis the federal government would be great enough to more than offset the clear and certain costs must remain a matter of speculation. However, one aspect of the question seems to be straightforward. The exigencies of political life are such that provincial treasurers and the governments of which they are a crucial part cannot be made to appear silent parties to federal tax changes that are perceived to be antithetical to the interests of their sup-

porters. Nor can they easily sustain their credibility when their views are seen to be either ignored or given no more weight than those of other 'special interest' groups. In short, the development of a legitimate form of 'due process' with respect to the way in which federal personal income tax changes are decided may well be as important or more important than the actual substance of the federal changes, at least from the perspective of provincial treasurers. And in the final analysis day-to-day political necessities are likely to carry more weight than the abstract virtues of tax harmonization, common markets, and similar verities.

Federal ministers of finance have, from time immemorial, been forced to wrestle with the competing claims of special interest groups, other ministers and their officials, demands for 'quick answers', and so on. In this mêlée, the demands by the provinces to be 'seen to be heard' are no doubt muted if not stifled, particularly when political partisanship is a constant consideration. Nevertheless, while acknowledging the difficulties, there is an urgent need to give the provinces greater access to the federal tax structure decision-making process in order to reduce the likelihood of the provinces 'going their own way' for political rather than for economic reasons - but with the attendant economic costs.

THE SCOPE FOR CHANGE

This report seeks to answer this question: would changes in the PIT system be effective in increasing labour supply, personal saving, and business investment? These are basic components of economic growth, as is briefly explained in Chapter 6. The question is posed in the first instance as though jurisdictional considerations were of no significance. If PIT changes are not effective on a national (or for that matter international) scale, they are obviously not going to be effective in the Province of Ontario, which has such a small and open economy by world standards.

In considering potential PIT changes, we are confronted immediately by the scope of the changes that may be contemplated. There are several alternative, fundamentally different tax regimes that might be labelled personal income tax systems. A regime that would exclude investment income from tax - essentially a tax on labour income - is one example. At the other extreme is a fully comprehensive income tax that would include, among other things, capital gains in full (on an accrual rather than a

realization basis) and the imputed rent of owner-occupied housing. A consumption expenditure tax, although hardly a personal income tax by any definition, is a tax base alternative that merits consideration if only because of the current public discussion of the subject in the United States, particularly by proponents of 'Reaganomics'.

This report basically considers five major areas of possible change. Chapter 10 briefly discusses the alternative tax bases just mentioned in relation to personal saving and pensions. Chapter 11 examines in some detail the possible merits of the full integration of the personal and corporate income taxes for Ontario residents. Chapter 15 comments upon the possible advantages of alternative treatments of the family. The potential role for PIT in municipal funding is discussed in Chapter 16. The advantages of a flat rate tax are considered later in the Introduction. In short, the report does not attempt in any consistent way to set forth all the pros and cons of the full range of radically different 'grand' tax regimes. This having been said, it is still worthwhile to briefly sketch some of the salient features of certain alternative 'grand designs'.

ALTERNATIVE TAX BASES[4]

The introduction of an independent provincial personal tax system would bring with it both dangers and opportunities. As has been noted above, the dangers might include increased costs of administration and compliance and less efficient resource allocation in response to interprovincial tax structure differences. The opportunities might include an improved sensitivity of the political system to citizen desires and the possibility of taking greater advantage of one of the most frequently touted advantages of federalism - local experimentation with different institutions, fiscal and otherwise.

Although Canada is in many ways one of the most 'federal' countries in the world, its federal character is at present not very obvious in its tax system. In contrast to the tax systems in the cantons of Switzerland and the states of the United States, for example, the tax systems in the

4 This summary of the major alternatives is based on a memorandum written by Richard Bird, summer 1982, which in turn draws heavily on a paper by J.G. Head and R.M. Bird, 'Options for Tax Policy in the 1980s,' in S. Cnossen, ed., Comparative Tax Systems (North Holland, 1982).

various Canadian provinces are astoundingly uniform, as is apparent from the brief discussion of 'Experience Abroad' in Appendix IC to this introduction. This uniformity may mean that Canada has already attained some sort of technical or allocational nirvana, or it may simply reflect a certain lack of imagination - or a lack of scope for exercising imagination presumably because of the federal government's efforts to block the rebirth of the 'tax jungle' of the 1930s. In any case, in considering the possibility of adopting an independent income tax in Ontario, it seems appropriate to consider at least briefly the possibility of doing more than simply replicating, perhaps with only minor modifications, the current federal-provincial tax structure. The balance of this section considers some alternatives that have not been widely discussed in Canada and that are obviously not 'here and now' options. Readers with a practical turn of mind or short time horizons might proceed directly to the next section.

The role of personal taxation

The progressive personal income tax has long been the cornerstone of fiscal design. A rather remarkable feature of the traditional public finance literature on tax policy is the contention that a 'single-tax' system based on a comprehensive income (or, as discussed below, consumption) concept is, at least in principle, to be preferred to any alternative system. According to this approach, a broadly defined personal income (or consumption) tax base provides the best possible instrument for the pursuit of the fundamental tax policy objectives of horizontal ('equal treatment of equals') equity and neutrality.[5] The adoption of a broad personal tax base also has an important role in relation to any vertical ('ability to pay') equity objective, because inequality can only be controlled effectively by applying an appropriately progressive structure of rising marginal and average tax rates to a comprehensive tax base that provides an accurate measure of relative economic position. Departures from the broad tax base, like meddling with the free functioning of the market mechanism, are as a rule firmly rejected by economists, if not necessarily in life, as discriminatory, distorting, and clearly inferior.

5 'Neutrality' means the minimization of effects of taxes on choices made for other reasons.

Until recently, most criticisms of personal income taxes - the closest approximation to this ideal tax in most countries - were directed at their failure to approximate this ideal, and the favoured direction of tax reform was to broaden the base of the personal income tax and to increase its share in the total tax mix. In recent years, however, the perceived growth, in both relative and absolute terms, in the weight of the personal income tax under double-digit inflation has provoked a strong taxpayer reaction in many countries - even when (as in Ontario) there has not in fact been any such growth. For example, concern has been expressed by many about the possible effects of high and rising marginal tax rates at moderate income levels on money wage claims. The recent rise of 'supply-side' economics has accentuated the traditional concern about the possible disincentive effects of taxes on work effort and saving. In addition, as the burgeoning discussion of the 'underground' or 'hidden' economy suggests, some now fear that tax avoidance is becoming the rule rather than the exception, perhaps partly because tax inequities, which might have been tolerable when rates of tax were low and stable, are attracting increasing resentment.

The focus of the 'taxpayer revolt' on the personal income tax is nevertheless rather surprising, because it has long been generally agreed that, of all taxes, it is the income tax which best lends itself to the detailed implementation of fundamental notions of equity and neutrality. Apart from the consideration that the income tax generally receives no support from direct linkage with popular programs (such as health or pensions), and the consideration that people probably tend to take out their frustrations on those taxes that are most visible, the current popular distaste for this 'best of all taxes' may arise from the growing awareness of design deficiencies in the present personal income tax, as a result of which the income tax is far from being either equitable or neutral in practice.

Of the unsatisfactory features of the present income tax structure, the worst by far in economic terms must surely be the nexus of provisions (including those of the corporate profits tax) governing the taxation of different types and sources of income from capital. Dividends, for example, are taxed differently depending on the level of personal and corporate taxes; interest on financial deposits and instruments is often fully taxable even when most of it is simply compensation for inflation; effective rates of tax on returns to retirement saving, on the other hand,

are in some cases reduced to zero (or even below zero) by a variety of special provisions; capital gains are at most partly taxed; and the imputed returns on investments in owner-occupied dwellings and other consumer durables are largely untaxed.

As a result of such provisions, economic decisions by firms and households are arbitrarily distorted and greatly complicated by tax considerations, opportunities for tax avoidance proliferate, and - because income from capital is heavily concentrated at the top of the income and wealth scale - the apparent progressivity of the personal income tax is seriously undermined even in periods of normal prosperity. In times of high inflation, further inequities and distortions arise as people are taxed on interest and other returns which are required merely to preserve the real value of their savings, and the income tax inevitably takes on some of the characteristics of a capricious capital levy. Although the effects of the income tax on total saving are obscure, as is discussed in Chapter 10, there is little doubt that some losses in aggregate economic well-being are imposed by the distortions of saving and investment decisions resulting from the present federal-provincial personal income tax system. It is correspondingly difficult to say whether even extreme provincial deviations from this distorted pattern would raise or lower economic well-being, either in the country as a whole or in Ontario specifically. With this in mind, four different approaches to more or less radical personal tax reform may be briefly considered.

A comprehensive income tax

According to what was until very recently the dominant tax policy tradition, the only fully satisfactory solution to problems such as those mentioned above lay in a more thorough-going and consistent application of the personal income tax philosophy along the lines endorsed for Canada by the Royal Commission on Taxation (the Carter Commission) of the 1960s.[6] Under this approach, the personal income base would be greatly broadened to apply consistently to all types of gain, whether from labour, capital, or 'windfalls', whether in cash or in kind, whether accrued or realized. Ideally, this would require, for example, full taxation of capital gains on

6 Canada, Report of the Royal Commission on Taxation (Ottawa: Queen's Printer, 1966).

an accrual basis (though with full inflation adjustment); abolition of all concessions for retirement saving; repeal of the corporate profits tax for residents except as a withholding device; and the full taxation of imputed rent. Given these changes, the capital-income distinction that is the cause of so much inequity, distortion, and complexity in modern income tax systems would largely disappear.

Of course, any sudden move in this direction might itself be criticized as horizontally inequitable, as it would generate a largely capricious pattern of windfall gains and losses for those who had entered into long-term economic commitments on the basis of the existing provisions of the tax system. Such objections could be greatly reduced by the adoption of suitable transitional arrangements, under which any major change would be phased in over five or ten years, or by some other form of compensation to losers. Such ameliorative policies would almost certainly be necessary to make major changes politically acceptable.

However, it may also be argued that attempting to overcome the inequitable effects of changes enacted, at least in part, to improve the equity of the system is analogous to redistributing wealth and then requiring that compensation be paid to those from whom wealth has been redistributed. Just because a change in tastes or social conditions is exercised through the political rather than the market process does not necessarily mean that those who lose should be protected, as an emphasis on the costs of transition seems to imply. Nevertheless, both experience and theory suggest that tax reformers, federal or provincial, need to pay far more attention to transitional problems than has generally been their wont.

How far any jurisdiction might be willing to proceed in the direction of a comprehensive income tax is an open question: Canadian experience with the Carter Report, perhaps the most carefully elaborated program of reform in this direction, is not particularly encouraging. Perhaps the most crucial feature of all such proposals is the provision that a serious attempt be made to tax capital gains on much the same basis as other forms of income from capital. If the ideal of full accrual taxation is out of the question - which does not really seem to be the case in theory but may be so in practice, given the apparently strong hold of the realization principle on the proverbial man-in-the-street - a good second-best solution might be to tax all realized gains in full as ordinary income under the personal income tax, with a deemed realization at death or on gift to limit

the advantages of tax postponement and reduce any possible lock-in effects. In the present high-inflation setting, a cost-basis adjustment for inflation should likely also be allowed; more generally, a good case can be made for allowing such an adjustment for all financial assets and liabilities as well as for rate and exemption indexation. The recent report of the Lortie Committee[7], which recommends partial accrual taxation of real capital gains, is an example of an apparently politically acceptable compromise that could usefully move the system in the direction of the comprehensive tax ideal. Useful measures short of the ideal of full neutrality and equal treatment are also possible in other problem areas, such as imputed rent and pensions.

The more compromise is made on such matters, however, the less the likely gain in the long run from reform efforts. While the potential economic and other benefits to be reaped from more comprehensive reform should not be underestimated, the probability of independent moves in this direction in Ontario at the present time seems so minimal that it is probably more sensible to turn to consideration of certain more radical - though apparently 'conservative' - proposals that have been put forward recently.

A flat-rate income tax[8]

The progressive rate structure in the current PIT system distorts many economic decisions, encourages tax avoidance, and greatly adds to complexity as the tax authorities attempt to prevent such avoidance. Three important problems that arise because of the progressive rate structure are: shifting incomes between high marginal rate taxpayers and low marginal rate taxpayers in order to reduce their joint liability, income averaging (shifting incomes across time), and indexing. On the administrative and compliance side, problems arise with respect to both withholding and enforcement, as is discussed later in this introduction.

An alternative to the progressive rate structure is a linear (i.e., flat) rate structure that combines a constant marginal rate of tax with a substantial personal credit (perhaps based on poverty line measures) and

7 Report of the Ministerial Advisory Committee on Inflation and the Taxation of Personal Investment Income (Ottawa: Queen's Printer, 1982).

8 Earlier versions of this sub-section were prepared by R.M. Bird and Enid Slack.

TABLE I.1
A credit income tax

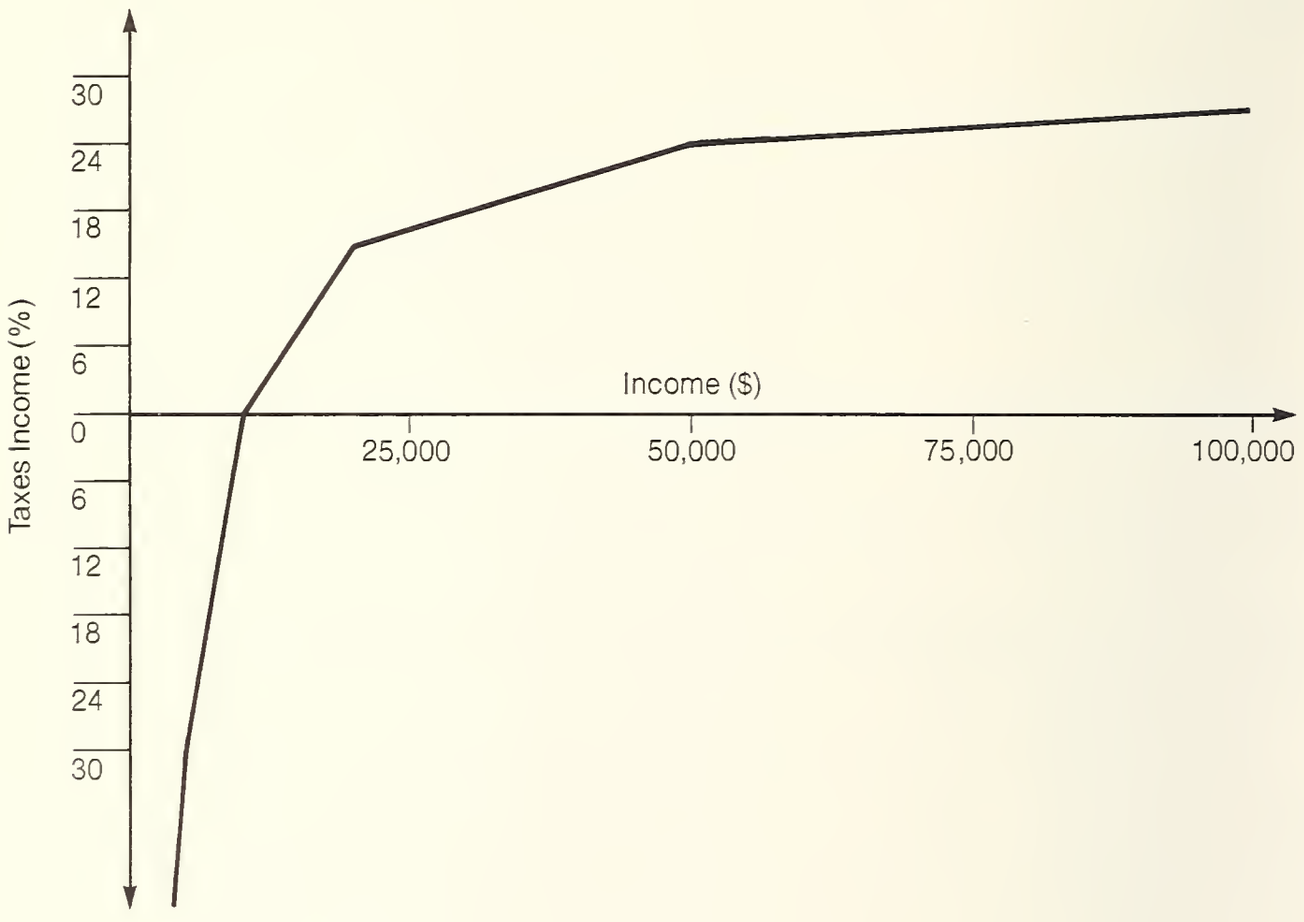
Credit = $3,000; tax rate = 30%				
Income	Tax	Credit	Net tax	Net tax/income
0	0	3,000	-3,000	∞
1,000	300	3,000	-2,700	-270%
5,000	1,500	3,000	-1,500	-30%
10,000	3,000	3,000	0	0
20,000	6,000	3,000	3,000	15%
50,000	15,000	3,000	12,000	24%
100,000	30,000	3,000	27,000	27%
500,000	150,000	3,000	147,000	29%

with few (or no) exemptions or deductions. This is also known as a credit income tax (Credit IT).

All individuals would receive credits and, given the scheme in its purist form, the uniform marginal tax rate would be applied to a comprehensive income base (described below) with no personal exemptions.[9] Such an income tax would still be progressive in the fundamental sense that average or effective rates of tax would steadily rise with incomes. Because the credit is relatively less important for high-income taxpayers, the average tax rate rises with income even though the marginal rate remains constant. This is shown in Table I.1 and Figure I.1 for a credit of $3,000 and a flat marginal tax rate equal to 30 per cent, amounts chosen for illustrative purposes. Up to an income of $10,000, the individual receives a transfer, because the tax payable is outweighed by the credit. Beyond $10,000, taxes increase, as do taxes relative to income. As Figure I.1 shows, the tax is very progressive in the lower income classes and then flattens out somewhat in the upper income levels.

9 For a definition and detailed description of this base, see Jonathan Kesselman, 'Taxpayer Behaviour and the Administrative Principles of a Credit Income Tax', University of British Columbia, Department of Economics Discussion Paper no. 81-1, 1980. The implications of applying a constant marginal rate of tax to the current base are discussed below. See Chapter 10 for additional discussion of alternatives.

Figure I.1
A Credit Income Tax
credit = $3,000 tax rate = 30%



In other words, in this example, taxes relative to income vary much more between incomes of $10,000 and $20,000 than they do between incomes of $50,000 and $500,000. It may be desirable on efficiency grounds to have lower marginal rates in the higher incomes to reduce work disincentives, although the evidence suggests that this is a consideration relevant only in special, relatively narrow circumstances (see Chapter 8). Alternatively, a surtax could be placed on high incomes to increase the progressivity of the tax. In order to avoid all of the pitfalls of a progressive rate structure, however, it would probably be best to impose a uniform surcharge on only a small part of the population - those with the largest relative incomes. A surcharge would permit a reduction in the basic flat Credit IT rate and thus reduce the tax burden to moderate income levels.

As can also be seen in Figure I.1, the credit income tax automatically extends down into the negative range by providing transfers to those with

incomes less than $10,000. This method of integrating the tax and transfer systems could also provide the basis for a modification of the welfare system that would integrate it more fully with the PIT system.

A flat-rate income tax potentially could reduce many tax distortions that have their origin in the progressive rate structure.[10] Under the current PIT, with rising marginal tax rates, there is an incentive for individuals in higher tax brackets to shift income to spouses or dependents in lower tax brackets. Currently there are several mechanisms designed to prevent this so-called 'income splitting' - for example, income from assets transferred to another family member is treated as income of the donor for tax purposes.

Aggregation problems would be eliminated with a flat-rate tax because everyone in the family unit would face the same marginal rates. Thus, there would be no incentive (created by the tax system) to shift income between family members. Also, with no exemptions or standard deductions, there would be no incentive to shift income to dependents. The elimination of the married exemption, for example, would also mean that there would no longer be a work disincentive for dependent spouses even at low income levels. Under the current system, the rate of tax per dollar earned for dependent spouses is significant, particularly for spouses who are potentially secondary workers with only low income prospects.

A second problem that could be eliminated by a flat-rate income tax is one that arises from fluctuations in income over time. A system with progressive tax rates results in heavier taxation of fluctuating incomes than of equal sums distributed evenly over several years. With a progressive rate structure, some form of income averaging is required that will effectively smooth the taxpayer income at least for a few years, whether the averaging be retrospective or retroactive or apply to a given block of years. Without some form of averaging, the progressive rate structure discriminates against activities that yield fluctuating incomes (i.e., professional athletics). A flat-rate income tax provides horizontal equity for inter-year (and intra-year) income fluctuations without necessitating any form of income averaging. It thus eliminates the distortion created by a progressive rate structure when the timing of income receipts, outlays, or work patterns fluctuates.

10 The remaining discussion of the Credit IT is based largely on Kesselman, 1980.

A third problem arises as a consequence of a progressive rate structure and inflation. During periods of inflation, as nominal income increases, a larger proportion of the taxpayer's income gets shifted into ever-higher marginal tax brackets even when there has been no increase in real income. Without indexing of exemptions, deductions, and tax brackets to the rate of inflation, taxable income rises faster than total income. The result is that the individual's tax liability increases with inflation even though real income has remained constant (or is falling).

Under a flat-rate income tax, tax liabilities would still rise with inflation (unless the credit were indexed), but the taxpayer would not be faced with ever-higher marginal tax rates on the nominal income increases. Thus there would be no need to index personal tax rate brackets.

The taxation of nominal capital gains on shareholders' equities and of interest income that includes a return of capital that would otherwise be eroded by inflation also creates severe distortions in the capital markets and is inequitable. However, these problems would not be resolved by the adoption of a flat rate of tax.[11]

Turning to administration, a flat-rate structure could greatly simplify tax procedures. Every individual would file a return and credits would be paid to each adult and to the mother (in most cases) for a dependent child. In terms of withholding, a progressive rate structure can cause problems in determining the proper amount of tax to withhold. Taxes are currently withheld from pay cheques on the assumption that that is the only source of income for the worker and that it does not fluctuate. Variations in income thus typically lead to over- or under-withholding of taxes under a progressive rate schedule. Under a flat-rate income tax, the amount withheld would exactly satisfy the tax liabilities. Moreover, withholding could be extended to all income payments.

Compliance costs might be reduced under a flat-rate system because the tax form would have fewer deductions and exemptions. With respect to evasion, the broader application of withholding would result in fewer dollars escaping the tax. Because widening the tax base through the elimination of many, if not all, exemptions and deductions would be a nec-

11 See the Lortie Report, supra, note 7, and the Ontario Economic Council's responses to it, Inflation and the Taxation of Personal Investment Income: An Analysis and Evaluation of the Canadian 1982 Reform Proposals (Toronto, 1982) and Inflation and the Taxation of Personal Investment Income: An Ontario Economic Council Position Paper on the Canadian 1982 Reform Proposals (Toronto, 1982).

essary concomitant of the adoption of a flat rate of PIT, there would be fewer opportunities for overclaiming and under-reporting.

Finally, the Credit IT has also been supported for its supposed virtues as an approach to income security. It could be used, at least in part, to replace the welfare system, because it automatically provides a guaranteed income (as shown in the example in Table 1.1, a person earning zero income receives $3,000 under this scheme). Using the tax system for this purpose has advantages in terms of reducing the stigma attached to the receipt of welfare payments and in terms of administrative simplicity. Net beneficiaries are treated the same way as net taxpayers under this system and one can move smoothly between categories.[12] However, a Credit IT could not replace all social security programs - there would still be a need, for example, for social insurance programs such as unemployment insurance.

The implementation of a flat-rate structure implies a concurrent decision to alter the tax base in order to more closely approximate a comprehensive income base while simultaneously imposing a flat rate of tax. This, however, could be done gradually, keeping in mind, as noted earlier, that each individual step should avoid major shifts in any group's relative position. Very briefly,[13] the first step could be to convert personal exemptions into credits.[14] An initial use of non-refundable credits would reduce the administrative requirements with respect to credits, although the system already operates with some refundable credits.[15] Also, standard deductions could be increased to reduce itemized deduction claims. The second step would be to expand the tax base by eliminating most of the deductions and to compensate by reducing marginal tax rates in the high income brackets.[16] At a later stage, standard deduction levels would be eliminated, lower rate brackets increased, and basic credit levels increased. Eventually, the system would

12 As noted, the Credit IT treats every individual the same way. Since current transfer policy in Ontario stresses family income as the basis for payments, the Credit IT would represent a very fundamental change in approach to transfer policy (though not to tax policy).

13 The following scenario is based on Kesselman, 1980.

14 A more general discussion of the pros and cons of credits versus exemptions with respect to the tax-transfer treatment of the family appears in Chapter 15.

15 The child tax credit in the federal PIT and most provincial tax credits are refundable. See below.

16 This means that deductions provide relatively larger benefits to high-income classes.

have a flat-rate tax levied on a comprehensive income base with credits provided to each individual.

An important question for this study is whether the benefits of the Credit IT outlined above would warrant the additional compliance and administrative costs that would necessarily be incurred if Ontario had its own substantially different personal income tax that largely eliminated exemptions and deductions and replaced the progressive marginal rate structure with a flat-rate personal tax.

It is not possible to 'answer' this question with the information available, even if the non-economic consequences of such a major change are ignored. The benefits simply are not quantifiable, which is not to say they would be small, much less insignificant. Recognition must be accorded to the probable income-wealth redistributional implications of a move towards a Credit IT. It would be difficult, and perhaps impossible, to design an administratively feasible Credit IT that would leave unchanged the current allocation of personal income taxes among existing income-wealth classes and existing tax units. Whether such a change would be an improvement or not would depend both upon the design of the Credit IT actually adopted and upon non-economic criteria that lie beyond the scope of this study. One can predict with confidence that any such move, in whatever form, would be extraordinarily controversial.

The next question, then, is whether it would be desirable for Ontario to levy a flat rate of tax on the existing tax base, assuming the federal government would continue to administer such a system for Ontario under the Tax Collection Agreements. In other words, would it be desirable to implement an Ontario flat-rate income tax on a federal base that is not comprehensive? The 'answer' would seem to be that there would still be many advantages to be derived from imposing a uniform provincial tax rate on the federal non-comprehensive income tax base rather than a flat rate of tax on the federal basic tax - a tax that is derived from a progressive marginal rate structure. The main drawback to adopting a Credit IT applied to the present restricted federal base would be the resulting loss of progressivity of the tax, because many of the exemptions in the current tax base favour high-income groups relatively more than low-income groups. With a flat rate of tax and no change in the base, and with the same revenues to be raised, there would be a major shift in the PIT burden from upper-income taxpayers to middle- and lower-bracket taxpayers.

Although the advantages set forth above (e.g., no need for income splitting, income averaging, and tax bracket and exemption indexing) would certainly obtain at the joint federal-provincial level, it is questionable whether they would be material if confined to the province. Only about one-third of the current PIT revenue raised from Ontario residents is attributable to the Ontario PIT. If the federal government failed to follow Ontario's lead in adopting a Credit IT, all the existing problems would continue but their relative importance would be reduced by one-third. One might speculate that the avoidance and counteravoidance strategies that now prevail, and the resulting distortions to economic decisions, would not abate sufficiently to warrant the extra costs of a separate system.[17]

Ontario currently makes use of refundable credits within the federal personal income tax system (see Chapter 2 for details). These are credits for property taxes, sales taxes, pensioners, and home heating costs. They are based on the costs associated with each of the above less some portion of taxable income. Although they are quantitatively small (the maximum total for all credits is $500), they do take the form of a guaranteed income scheme because[18] every individual resident in Ontario is eligible to receive a credit if his/her income is sufficiently low.[19] Also, these are refundable credits, so individuals with little or no taxes payable receive a transfer.

The existing tax credits, because they are reduced as incomes increase, are considered to be fairly progressive in incidence.[20] Thus, in essence, Ontario is already able, within the existing federal-provincial income tax system, to alter the marginal rate structure, at least for low-

17 It can also be noted that municipalities could easily piggyback onto a credit income tax. For further discussion of municipalities sharing the proceeds of the PIT, see Chapter 16.

18 These credits were seemingly designed to provide a sufficient guaranteed annual income for all Ontarians. However, they were never expanded sufficiently to do this - probably a result of changing economic times.

19 Although everyone is eligible, it is not clear that individuals with no taxable income file tax returns in order to receive the credit. This is one problem with integrating transfer policies into the tax system - the lowest-income individuals do not always receive the greatest benefits.

20 An earlier study of the property and sales tax credits indicated that these credits were progressive in incidence. See R.M. Bird and N.E. Slack, Residential Property Tax Relief in Ontario (Toronto: Ontario Economic Council, 1978).

income earners. By the same token, Ontario is free to impose surtaxes on those in the upper brackets, as some provinces have done (see Chapter 2). It should not be technically or jurisdictionally difficult, then, to enhance the existing credits, providing a guaranteed minimum income to all Ontarians, and then impose a flat rate tax on the existing tax base. Also, it may be possible to offset some of the lack of progressivity resulting from applying a flat rate of tax to a less than comprehensive income base by increasing the progressivity of the credit itself. Thus, there is certainly some potential for expanding the existing Ontario tax credits to arrive at a system that would more closely approximate a Credit Income Tax but still fit within the existing federal-provincial PIT structures.[21]

If Ontario opted to collect its own PIT and continued to follow the income-tax route, rather than proceeding to one of the other 'grand designs', a flat-rate income tax, particularly with credits rather than exemptions, would be a structural reform that offered potential advantages in terms of equity, efficiency, and simplicity at little, if any, loss in effective progressivity, particularly if applied at the joint federal-provincial PIT level. For Ontario to 'go it alone' would represent a drastic deviation from the Canadian norm and could obviously give rise to some problems in relation to the federal (and other provincial) tax systems. On the whole, however, if Ontario were to be a bold fiscal experimenter, a move in this direction would appear to be both feasible and in tune with the times and perhaps would lead the way for other provinces and the federal government.

Such a move within the existing PIT would, of course, require the precedent-setting concurrence of the federal government under the Tax Collection Agreements. Given that the federal goverment has previously accepted interprovincially diverse systems of credits and in some instances provincial surtaxes, there would seem to be little justification for rejecting provincial autonomy with respect to the provincial PIT rate structure. Any untoward economic consequences, and the risks seem slight (see Chapter 8), attend the existing permitted degree of provincial credit-surtax diversity. Any additional administrative costs would be small and

21 Some changes would be required. For example, the current Ontario credits are only available to the highest income earners in a family. For a true credit income tax, it would be necessary to provide a credit to each individual.

could be levied on the provinces, as is done with respect to the existing provincial credits (see Chapter 2).

A consumption expenditure tax

The conventional 'comprehensive' solution to the problems of unequal treatment of different types and sources of income from capital is to tax all such incomes fully and equally. A very different approach to the same problems is to be found in recent proposals to transform the personal income tax into a personal consumption expenditure tax.[22] One argument for this position is that it is more equitable to tax people on what they take out of the common pool (consumption) than on what they put into it (income). For most people, particularly over a long period of time (lifetime), there is little difference between income and consumption in any case. Moreover, in sharp contrast to the comprehensive income tax, under which the return to the saver is characteristically reduced below the rate of return on the underlying real investment, the personal consumption expenditure tax leaves these rates of return equal, as will be discussed in Chapter 10. Income from capital, whatever its form or source, is thus in effect exempt from tax, except in so far as it is subsequently spent for consumption purposes.

In contrast to the equity argument, which does not seem compelling (one might equally well argue, for example, that people should in principle be taxed on what they could contribute to the common pool - their potential income), there is clearly some merit in the argument for removing the 'wedge' imposed by the income tax on savings, even if it does not appear in practice that the disincentives thus created are very strong or clear. Since all existing income tax systems are in fact hybrids of the pure income and pure consumption principles (for example, in the treatment of retirement saving, the exemption of most capital gains, the prevalence of accelerated depreciation schemes, and the exemption of imputed rent), it might indeed be simpler and more efficient to harmonize the tax treatment of different forms of income from capital along the lines suggested by advocates of the personal consumption expenditure tax.

22 See J.E. Meade et al., The Structure and Reform of Direct Taxation (London: Institute for Fiscal Studies, 1976), and U.S. Treasury Department, Blueprints for Basic Tax Reform (Washington, 1977).

A particularly striking feature of recent discussions of the expenditure tax has been the emphasis on its advantages in terms of tax simplification. Given the complexity of the comprehensive income tax alternative (and even the present income tax), these advantages seem strong. It is usually proposed that personal consumption be calculated indirectly on the cash-flow principle by taxing all incomings - including receipts such as gifts and bequests, sales of capital assets, and borrowing - and allowing a deduction for all non-consumption outgoings. In its simplest form, such an expenditure tax, being based on cash flow, would require no special tax on capital gains or imputed rent. In addition, the treatment of pensions would be enormously simplified, the difficulties of determining depreciation rates would disappear, and, most importantly, the complex problems of full inflation adjustment for capital income would be completely avoided.

In practice, of course, the expenditure tax has its own very considerable administrative difficulties (for example, in the treatment of housing), and it would probably be very difficult to move to this basis in an income-tax-dominated world. It is unlikely that a small jurisdiction such as Ontario could or should take any lead in this direction. Moreover, a move to an expenditure tax would probably give rise to transitional problems as great as those associated with a move to a comprehensive income tax. Those who had paid tax on their investment income in the past would be forced to bear a particularly heavy burden when they consumed later in life. On balance, it is as yet far from clear that the ultimate gains from such a change would be worth the costs of making the switch on a national, let alone a provincial, level.

Nevertheless, although the whole concept of a personal consumption expenditure tax represents a sharp break with the long-dominant income tax tradition, it still merits some consideration. In particular, there are possibilities for combining a progressive personal consumption expenditure tax with a broad-based indirect consumption tax, such as the present retail sales tax. It should be borne in mind, however, that many of the strongest supporters of the move to an expenditure base for personal taxation would regard a tax on wealth (or wealth transfers) as an indispensable supplementary instrument on equity grounds. The prospects of this aspect of the mix being actively considered in Ontario seem nil at present.

A payroll tax

Apart from the personal income tax, payroll taxes constitute the major element of the personal tax system in most countries. Perhaps because payroll taxes are usually linked, legally and psychologically, with such desired public sector expenditures as health and pensions, their growth in many countries has been both rapid and, as a rule, surprisingly uncontroversial, at least until recently. Nevertheless, the basically regressive structure of these levies and their increasing weight on labour incomes means that increasing attention is being paid to possible reforms in this area also.

If payroll taxes are viewed as personal taxes, they are clearly defective by the standard of the comprehensive income tax, because they fall on only one form of income and are usually regressive. Given this standard, such taxes should be absorbed into the income tax (or perhaps into a revised linear (flat-rate) variant of the income tax). The consumption tax principle can, however, be alternatively applied under an income tax, by exempting income from capital. Recognizing the essential equivalence of taxes imposed on different sides of the same transaction, a possible indirect tax alternative to a personal consumption expenditure tax might therefore be a payroll tax. The payroll tax could thus in principle serve essentially the same function of tax simplification in the consumption expenditure tax approach as the indirect consumption tax discussed next. It must be borne in mind, however, that wage taxes and consumption taxes are not exactly equivalent for several reasons (e.g., because the latter take into account bequests and gifts). Moreover, there seems no reasonable way to introduce progressivity into a payroll tax system.

A sales tax

Although general sales taxes have produced significant revenue in many countries, they have traditionally been viewed as a sort of necessary evil. However, the recent concern with the weight of personal direct taxes has led to suggestions that a broad-based indirect consumption tax, such as a form of value-added tax[23], may in fact provide a simpler method of raising

23 A value-added tax has a self-policing feature that may be important when the rate of tax is high and evasion an increasing problem.

at least part of the revenue presently derived from the income tax. Indeed, as and when economic circumstances permit, the rate of sales tax could be increased and the additional revenue used to scale down and simplify the income tax structure. A mixed income and consumption tax system along these lines - with any adverse effects at the lower end of the income scale offset by income tax credits and adjustments in transfer payments - may represent a feasible compromise between the income and consumption approaches, as well as offering considerable flexibility for economic management.

A broad-based indirect consumption tax also has considerable attractions for those who prefer a system based on a more consistent application of the consumption principle. The administrative problems of a progressive consumption tax would obviously be greatly reduced if the complexities of the direct calculation of consumption expenditure could be confined to a relatively small number of wealthy taxpayers. This would be possible under a 'two-tier expenditure tax', consisting of a broad-based indirect consumption tax supplemented by a progressive surtax on consumption expenditure confined to high expenditure levels.

It seems highly unlikely, however, that the Government of Ontario would seriously contemplate introducing such a surtax in the foreseeable future.

ALTERNATIVE APPROACHES TO FISCAL FEDERALISM[24]

One's views on the appropriate taxes to be levied by the provinces depend to a considerable extent upon one's views of the fiscal aspects of federalism more broadly conceived. Much of what has been said and written about this subject in Canada appears to reflect more a 'unitary' than a 'federal' concept of the underlying reality of the Canadian polity. In particular, the conventional economic approach to these questions appears to deny the central reality of federation in the classic sense, namely, the equal and coordinate status of the provinces and federal government in some areas. The importance of this underlying conception for tax assignment in a federal state may be suggested by reviewing briefly four alternative approaches to fiscal federalism, starting with the most centralist (and most 'economic') and ending with the most federalist (and most 'political').

24 This section was prepared by R.M. Bird.

The conventional economic approach

The conventional economic approach to federal finance is often cast in terms of the familiar tripartite division of governmental functions into those concerned with allocation, distribution, and stabilization.[25] In this view, only the central government has any role to play with respect to distribution and stabilization. One reason is that sub-national economies are so open and factors are so mobile that provincial or local governments are unable to effect differential stabilization or distributional policies.

Another reason is the (usually implicit) normative assumption that the relevant span of operation for such policies is in any case national. The only role for sub-national governments in this framework is to provide at least cost certain 'public' goods and services that have spatially delimited benefit areas. Assuming some people want more or different bundles of local public goods than others, and that they are mobile, people will tend to cluster in such a way as to obtain the bundle they want most cheaply, thus leading to a more economically efficient outcome than if they all had to consume a uniform, nationally determined set of public goods.

The tax assignment rule generally accompanying this assignment of expenditure functions is that these local goods and services should, to the extent possible, be financed by benefit taxes (with a similar spatial impact). This rule is often further justified by reference to the desirability of centralizing distributional (non-benefit) taxes in any case and to the presumed lesser costs of collecting such taxes centrally.

Approaching the allocation of functions and finances in this way leads at most to the conclusion that decentralized administration of public goods with different spatial spans may be advisable in order to minimize per capita costs of providing the optimal bundle of those goods and services that are desired by individuals. To justify effective decentralization of decision-making within this framework, an additional assumption is needed, for example, that local governments can more easily find out what their constituents 'really' want - and that they will (for some reason) do so. Even when a case for a certain degree of local independence is erected on this (or some other) tenuous framework, it is almost always qualified by noting the need for continued central intervention - for instance, through

25 Perhaps the best example of this approach is Wallace E. Oates, Fiscal Federalism (New York: Harcourt Brace Jovanovich, 1972).

grants - to 'correct' the misallocations of resources that will result from spillovers of local taxing and expenditure decisions.

Although much more could be said along these lines, what finally emerges from the traditional economic literature on federalism is the very centralist conclusion that 'the federal government ought to regulate what tax bases local governments can use, and in certain cases ought to raise revenue itself and then transfer it to local governments'.[26]

This very abbreviated account of the standard 'federal finance' literature suggests that it may be characterized as concerned with the problem of achieving efficient allocative outcomes given an overriding set of weighted national social-economic objectives that, when realized, would maximize the level of satisfaction of the citizenry (i.e., a social welfare function, in the terminology of economics). The only new twists in this old story are that certain goods and services that are 'public' in nature may have a span that is geographically smaller than that of the nation as a whole and that individuals may have differing preferences for these goods. Far from being a case in which the federalist baby has been thrown out with the distributive bathwater, neither the baby nor the bathwater were ever in the analytical tub to begin with!

The conventional approach may however be modified to render it a more reasonable basis from which to appraise the assignment of taxes, while still retaining such traditional virtues of economic analysis as primary concern with the welfare of individuals and the rigorous logical deduction of conclusions from simple premises. Two examples of such 'modified conventionalism' are discussed briefly in the next section.

Modified conventionalism

In a sense, the essence of federalism is that more than one government has jurisdiction over any one person and that each autonomous government has formulated its own distinct social welfare function. Moreover, far from local redistributive policy being ruled out on efficiency grounds, as in the conventional model, it may be argued that 'a federalist system...requires local redistributions to have a real meaning as an optimal fiscal system'.[27]

26 Roger H. Gordon, 'Taxation in Federal Systems: An Optimal Taxation Approach', paper for International Seminar in Public Economics, Canberra, Australia, August 1982, 21.

27 Richard W. Tresch, Public Finance: A Normative Theory (Plano, Texas: Business Publications Inc., 1981), 590.

Indeed, if provincial governments do not have independent distributional rankings, they have little rationale for independent existence. In reality, of course, all governments obviously do have such rankings, and these rankings obviously differ among provinces and between provinces and the federal government. Indeed, among the bundles of 'public goods' mobile citizens choose in deciding where to locate, the local distributional ranking may well be the most important.

In these circumstances, it may be concluded that the optimal solution is for each government to have 'an individualistic social welfare function whose arguments are the social welfare functions of the governments immediately below it in the hierarchy of governments'[28]. This conclusion, that basic interpersonal responsibility is properly a provincial rather than a national responsibility, stands in startling contrast to the usual centralizing conclusion on distributional policy drawn from the orthodox 'federal' model of economists.

A better-known attempt to put more content into a modified conventional framework is that of Breton and Scott[29], who formally introduce organizational costs into the economic analysis of the optimal allocation of functions to different jurisdictional levels. They distinguish four types of organizational costs: administrative costs (internal to a government), coordination costs (between governments), signalling costs (from people to governments), and mobility costs.

Within this analytic framework, Breton and Scott correctly note that most of the literature on tax assignment in a federal state pays a great deal of attention to the administrative, compliance, and (with mobile resources) efficiency costs of sub-national taxation and emphasizes the need for more coordination - while neglecting almost completely the costs of coordination and of signalling. Their comment on the tax harmonization literature for instance, is worth quoting: 'Because it assumes that more co-ordination among jurisdictions would always be better than less, that is, because it implicitly assumes that the costs of co-ordination are zero, its treatment of the assignment problem is systematically biased towards excessive investment in co-ordination and harmonization'.[30]

28 Ibid., 597.
29 Albert Breton and Anthony Scott, The Economic Constitution of Federal States (Toronto: University of Toronto Press, 1978).
30 Ibid., 107.

Public choice approaches

The Breton-Scott approach outlined above is in many ways close to the 'public choice' literature on federalism. The basic assumptions underlying the simple public choice approach are broadly the same as those made in conventional economic analysis. In total, these assumptions imply that the optimal design of governmental structures is likely to be complex and probably overlapping, as in the usual economic model. In contrast to that model, however, the public choice approach stresses the extent to which apparent duplication and overlap - 'competition', as it were - facilitate the signalling of citizen preferences. In the public choice model, as in the conventional model, a federal structure is needed to deliver the goods efficiently, but in essence the principal virtue of federalism is seen to be the fact that the inevitable coercive power of the state against the citizen is fragmented and thus weakened, so that the final allocation of goods and services both within each of the private and public sectors and between the two is more likely to be closer to what people 'really' want.

This picture is obviously simplistic, neglecting, for instance, the traditional legitimacy issues dear to political scientists and the pervasive inequality of wealth and resources in the real world. Nevertheless, its stress on the virtues of competition within the public sector is a useful corrective to the usual facile condemnation of 'duplication and overlapping' as an unmitigated evil. This argument should itself be modified, of course, by the point, noted above, regarding the need to balance the cost of coordination against the cost of signalling.

Again, the principal virtue of federalism, according to the public choice approach, is the competition it creates among jurisdictions. Moreover, the less distorting and broader-based taxes - such as, perhaps, income taxes - should be given to sub-national governments precisely because their revenue-maximizing utilization of these levies will be constrained by migration! 'Tax competition among separate units rather than tax collusion is an objective to be sought in its own right'.[31] 'The tax competition is the fundamental ingredient in constraining the behaviour of local despots: tax competition among sub-national jurisdictions, like price competition among firms, is basically beneficial, in that it reduces

31 Geoffrey Brennan and James M. Buchanan, The Power to Tax (Cambridge: Cambridge University Press, 1980), 186.

the extent to which citizens can be exploited by the intrinsically coercive powers vested in government'.[32]

The case for independent local taxes in this framework is thus not to give local governments more revenue, but rather to have government as a whole take less from citizens: pressures to modify tax competition through uniform tax systems or 'cartel-maintaining' central government grants to provinces are thus to be deplored. However, the obvious 'prisoner's dilemma' or 'least-common denominator' aspect of tax competition among provinces may legitimately be modified even in an idealized federal setting by accepting constitutional constraints on provincial taxing powers to reduce the possibility of tax exportation. The exporting of taxes among jurisdictions in effect reduces the level of competition and hence the constraint imposed on tax levels by the fear of driving out residents.

The conclusion of this line of analysis is really that any economic model of the political process leads to a presumptive case in favour of federalism, and more particularly in favour of the effective decentralization of non-exported taxes probably even beyond the point implied to match the spatial properties of public goods. It is this last point, the justification of tax decentralization as desirable even apart from the spatial properties of public goods, that really distinguishes the public choice approach from the traditional demand-oriented conventional analysis.

A process perspective

Finally, and very briefly, another, quite different, perspective on federal finance may be mentioned. This approach also starts from the point that the conventional economic literature is deficient in that it treats economic objectives as, in effect, independent of political and constitutional realities. In contrast to the public choice approach, however, this final approach focusses not on how best to reach the 'best' results from the point of view of citizens, but rather on how to develop a more organized and coordinated method of reaching the necessary federal-provincial compromises. Tax harmonization issues, for example, should be explicitly considered in the context of a set of interlocking, ongoing, joint federal-provincial committees on which both sides have equal status. Such a

32 Brennan and Buchanan, 'Normative Tax Theory for a Federal Polity: Some Public Choice Preliminaries', paper for International Seminar in Public Economics, Canberra, August 1982, 22.

framework would ensure that policies were formulated by all governments in light of their possible effects upon other policies.[33] Recent Canadian experience suggests that this would be no small gain.

Although obviously deficient in its neglect of the possible trade-off between coordination costs and the costs of uncoordinated decisions - not to mention the danger of facilitating the formation of government 'cartels' - this approach is nonetheless worth mention here both because federal-provincial committees are how things get done in Canada and because it seems clear that this committee process is at present neither based on 'equal status' nor as well-articulated and coordinated as it could be. Should provincial fiscal systems in Canada become still more independent, closer consideration of more appropriate coordinating mechanisms, perhaps along these lines, will become even more important. The normative underpinnings of the 'process' approach may not be as intuitively appealing as the conventional approach (to 'liberals') or the public choice approach (to 'conservatives'); but the positive advice it provides on how to deal with tax problems in a federal state may, in the end, prove to be more useful than the vague 'assignment rules' that may be derived from either of these models.

THE PERSPECTIVE OF THE REPORT

This, then, is the perspective of the report:

1. Adopting a separate and different PIT system for Ontario might add a significant retaliatory weapon to the arsenal at the disposal of the provincial treasurer, although it would be difficult to prove that Quebec's experience with PIT and CIT and Ontario's experience with CIT have materially affected federal tax policies in the past. There is no doubt that the federal government has been cavalier and pre-emptive in the field of personal income taxation. Unilateral changes that affect the interests of Ontario have been made by Ottawa without warning, much less consultation, despite the fact that Ontario's jurisdiction with respect to PIT is unquestioned. Some of these changes have created serious problems, certainly some of a political

33 See Bernard Dafflon, Federal Finance with Special Reference to Switzerland (Bern: Paul Haupt, 1977).

and probably some of an economic nature. Unless Ottawa is prepared to substantially alter its decision-making process with respect to changes in personal income taxation, it will place in increasing jeopardy the goal of fiscal harmonization that it has pursued since the Second World War. Whether the federal government will be willing and able to amend its decision-making process to accommodate the provinces is moot. But it is a point that, in a sense, overrides the whole question addressed in this report. The required changes are not simply mechanical procedural modifications but changes in the weight given to the views and interests of the provinces vis-à-vis federal views and interests. In short, a change in the federal political system is involved.

2. 'Province building', which has been prevalent in many provinces, is a potential and perhaps even a present threat to the residents of Ontario. Much of it is of a 'beggar thy neighbour' variety. A retaliatory weapon may be necessary if the province is to compete in this most unfortunate 'war of all against all'.

3. There are, as has been stated, both analytic and strategic uncertainties concerning the efficacy of possible PIT changes under a separate PIT system. On the basis of a review of existing theory and fact by acknowledged specialists in their respective fields, this report seeks to summarize what is known about the effects of alternative PIT structures (or other tax-transfer measures) on labour supply, personal saving, and business investment. The essence of this review of what is known is that:

   - Little is known with certainty.

   - Ontario can play a significant role in stabilizing the economy of the province - reducing unemployment and reducing inflation. Some modest concessions by the federal authorities would enhance the province's capacity to play a stabilization role.

   - Except with respect to female secondary workers, there is little reason to believe that the levels of the marginal rates of tax per se have a significant effect on labour supply. The tax

treatment of the labour force entry costs (dominated by child care costs) for this group of females probably has a significant effect on the labour supply.

- Although the available evidence is slender, it is not inconsistent with the view that taxes in general, and PITs in particular, affect migration.

- There seems to be no reason for concern about the level of personal saving in Canada or Ontario. Moreover, there is no conclusive evidence to support the view that tax considerations affect the level as distinct from the form of personal saving. Because interjurisdictional capital flows and interest rates are largely determined outside the province (and the country, for that matter), there is little reason to believe that increased personal saving by residents of Ontario would have a favourable effect on investment in the province.

- The full integration of a separate Ontario PIT and CIT for residents, which would amount to the abolition of the latter, except as a withholding device, could have some favourable effects on business investment. There are, however, some major uncertainties in the long chain of fact and reasoning that suggests this conclusion. In addition, there could be serious (and hence cost-generating) administrative and intrajurisdictional difficulties associated with an integrated PIT-CIT.

- There is reason to believe that investment tax credits would be more effective than PIT-CIT integration, pose fewer analytic and strategic uncertainties, and offer no administrative problems.

- There are some changes that probably could be made in the existing system, still with federal collection, that would be efficacious. These include, among others spelled out in this report, adoption of a linear (flat) rate of tax for Ontario with refundable credits (which could be integrated with the social welfare system) and more generous treatment of the work-related expenses of child care.

- There seems to be some merit in tying a system of municipal grants to an earmarked portion of provincial personal income tax revenues.

- With respect to assistance for new and/or small businesses, Ontario's present industrial development bonds program, which exists outside the personal income tax system, appears to be potentially at least as effective as Quebec's PIT concessions for the purchase of the shares of Quebec-based corporations.

4. All in all, then, apart from the general 'public choice' case, noted above and not further discussed here, the argument for a separate Ontario PIT system seems to rest primarily on the advantages that might accrue to the province from the availability of a retaliatory weapon vis-à-vis unwanted federal PIT or other policy changes or 'province building' elsewhere in Canada that was likely to be at the expense of Ontario residents. Modifications in the decision-making processes of the federal government with respect to tax structure might well make the creation of a retaliatory capability unnecessary. Such modifications, together with a willingness on the part of the federal tax authorities to permit the provinces more latitude in adopting non-discriminatory changes in the federal PIT structure, and given the availability of other cost-effective policy instruments, would do much to ameliorate the provincial problems now arising from the joint federal-provincial PIT system.

Appendix IA
Provincial revenues

KEY TO TABLES

Category	Abbreviation
Direct taxes to persons	PIT
Direct taxes to corporations	CIT
Current federal transfers to province	CTPC
Motor vehicle licences and permits	MVLP
Miscellaneous taxes on natural resources	MTNR
Real property tax	RPT
Retail sales tax (including liquor and tobacco)	RST
Gasoline tax	GAS
Miscellaneous taxes	G MISC
Other current transfers	OCT
Total revenue	TOT

TABLE IA.1
Provincial revenues - all provinces (in millions of current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	315	8.98	1,099	18.09	2,545	21.91	4,875	24.33	11,083	27.98	18,729	23.43
CIT	304	8.67	545	8.97	819	7.05	1,436	7.17	2,099	5.30	3,267	5.14
CTPC	1,095	31.21	1,357	22.34	2,632	22.66	4,694	23.42	9,615	24.28	13,778	21.70
MVLP	109	3.11	139	2.29	189	1.63	269	1.34	388	0.98	530	0.83
MTNR	37	1.05	63	1.04	81	0.70	130	0.65	306	0.77	595	0.94
RPT	0	0.26	12	0.20	44	0.38	51	0.28	96	0.24	152	0.24
RST	317	9.04	838	13.79	1,777	15.18	3,041	15.18	5,348	13.50	7,764	12.23
GAS	430	12.26	659	10.85	993	8.55	1,375	6.86	1,640	4.14	2,273	3.58
G MISC	666	18.99	1,028	16.92	1,712	14.74	3,138	15.66	7,461	18.84	13,883	21.86
OCT	226	6.44	335	5.51	822	7.08	1,024	5.11	1,571	3.97	2,531	3.99
TOT	3,508	100	6,075	100	11,614	100	20,039	100	39,607	100	63,502	100

SOURCE: Statistics Canada (CANSIM)

TABLE IA.2
Per capita provincial revenues - all provinces (in current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	17.27	8.98	55.95	18.09	121.18	21.91	221.16	24.33	475.93	27.98	769.42	29.49
CIT	16.67	8.67	27.74	8.97	39.00	7.05	65.15	7.17	90.14	5.30	134.21	5.14
CTPC	60.04	31.21	69.08	22.34	125.33	22.66	212.95	23.42	412.89	24.28	566.02	21.70
MVLP	5.98	3.11	7.08	2.29	9.00	1.63	12.20	1.34	16.66	0.98	21.77	0.83
MTNR	2.03	1.05	3.21	1.04	3.86	0.70	5.90	0.65	13.14	0.77	24.44	0.94
RPT	0.49	0.26	0.61	0.20	2.10	0.38	2.59	0.28	4.12	0.24	6.24	0.24
RST	17.38	9.04	42.66	13.79	84.61	15.30	137.96	15.18	229.66	13.50	318.96	12.23
GAS	23.58	12.26	33.55	10.85	47.28	8.55	62.38	6.86	70.43	4.14	93.38	3.58
G MISC	36.52	18.99	52.33	16.92	81.52	14.74	142.36	15.66	320.40	18.84	570.34	21.86
OCT	12.39	6.44	17.05	5.51	39.14	7.08	46.46	5.11	67.46	3.97	103.98	3.99
TOT	192.34	100	309.25	100	553.02	100	909.09	100	1,700.83	100	2,608.77	100

SOURCE: Computed from Statistics Canada (CANSIM)

TABLE IA.3
Provincial revenues - Alberta (in millions of current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	14	4.71	61	13.01	159	18.17	323	19.17	751	14.94	1,282	14.89
CIT	0	0	28	5.97	58	6.63	123	7.30	405	8.05	520	6.04
CTPC	100	33.67	89	18.98	185	21.14	309	18.34	614	12.21	711	8.26
MVLP[a]	9	3.03	11	2.35	14	1.60	18	1.07	32	0.64	39	0.45
MTNR	8	2.69	6	1.28	11	1.26	89	5.28	247	4.91	513	5.96
RPT	1	0.34	1	0.21	2	0.23	2	0.12	1	0.02	8	0.09
RST	0	0	0	0	3	0.34	14	0.83	19	0.38	24	0.28
GAS	32	10.77	41	8.74	77	8.80	101	5.99	97	1.93	4	0.05
G MISC	118	39.73	213	45.42	321	36.69	639	37.92	2,741	54.51	5,328	61.90
OCT	15	5.05	19	4.05	45	5.14	77	4.57	121	2.41	169	1.96
TOT	297	100	469	100	875	100	1,685	100	5,028	100	8,608	100

a Business share only; the personal share is treated as a current transfer from persons.
SOURCE: Statistics Canada (CANSIM): Provincial Accounts.

TABLE IA.4
Per capita provincial revenues - Alberta (in current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	10.51	4.71	42.07	13.01	101.99	18.17	191.18	19.17	392.91	14.94	573.01	14.89
CIT	0	0	19.31	5.97	37.20	6.63	72.80	7.30	211.89	8.05	232.42	6.04
CTPC	75.08	33.67	61.38	18.98	118.67	21.14	182.89	18.34	321.23	12.21	317.79	8.26
MVLP[a]	6.76	3.03	7.59	2.35	8.98	1.60	10.65	1.07	16.74	0.64	17.43	0.45
MTNR	6.01	2.69	4.14	1.28	7.06	1.26	52.68	5.28	129.22	4.91	229.29	5.96
RPT	0.75	0.34	0.69	0.21	1.28	0.23	1.18	0.12	0.52	0.02	3.58	0.09
RST	0	0	0	0	1.92	0.34	8.29	0.83	9.94	0.38	10.73	0.28
GAS	24.02	10.77	28.28	8.74	49.39	8.80	59.78	5.99	50.75	1.93	1.79	0.05
G MISC	88.59	39.73	146.90	45.42	205.90	36.69	378.22	37.92	1,434.03	54.51	2,381.44	61.90
OCT	11.26	5.05	13.10	4.05	28.86	5.14	45.58	4.57	63.30	2.41	75.54	1.96
TOT	222.97	100	323.45	100	561.26	100	997.34	100	2,630.53	100	3,847.49	100

a Business share only; the personal share is treated as a current transfer from persons.
SOURCE: Statistics Canada (CANSIM): Provincial Accounts.

TABLE IA.5
Provincial revenues - British Columbia (in millions of current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	19	4.53	107	16.21	247	20.02	450	20.72	1,138	26.19	1,621	26.14
CIT	0	0	55	8.33	110	8.91	246	11.33	321	7.39	641	10.34
CTPC	146	34.84	101	15.30	188	15.24	313	14.41	799	18.39	1,015	16.37
MVLP[a]	12	2.86	15	2.27	19	1.54	28	1.29	32	0.74	49	0.79
MTNR	18	4.30	28	4.24	44	3.57	14	0.64	23	0.53	38	0.61
RPT	6	1.43	8	1.21	14	1.13	17	0.78	35	0.81	38	0.61
RST	91	21.72	149	22.58	202	16.37	351	16.16	773	17.79	760	12.26
GAS	37	8.83	56	8.48	75	6.08	129	5.94	186	4.28	231	3.73
G MISC	78	18.62	126	19.09	233	18.88	491	22.61	822	18.92	1,557	25.11
OCT	12	2.86	15	2.50	102	8.27	133	6.12	216	4.97	251	4.05
TOT	419	100	660	100	1,234	100	2,172	100	4,345	100	6,201	100

a Business share only; the personal share is treated as a current transfer from persons.
SOURCE: Statistics Canada (CANSIM): Provincial Accounts.

TABLE IA.6
Per capita provincial revenues - British Columbia (in current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	11.66	4.53	59.54	16.21	119.90	20.02	195.45	20.72	455.24	26.19	590.70	26.14
CIT	0	0	30.61	8.33	53.40	8.91	106.85	11.33	128.41	7.39	233.58	10.34
CTPC	89.62	34.84	56.20	15.30	91.26	15.24	135.95	14.41	319.63	18.39	369.87	16.37
MVLP[a]	7.37	2.86	8.35	2.27	9.22	1.54	12.16	1.29	12.80	0.74	17.86	0.79
MTNR	11.05	4.30	15.58	4.24	21.36	3.57	6.08	0.64	9.20	0.53	13.85	0.61
RPT	3.68	1.43	4.45	1.21	6.80	1.13	7.38	0.78	14.00	0.81	13.85	0.61
RST	55.86	21.72	82.92	22.58	98.06	16.37	152.45	16.16	309.22	17.79	276.95	12.26
GAS	22.71	8.84	31.16	8.48	36.41	6.08	56.03	5.94	74.41	4.28	84.18	3.73
G MISC	47.88	18.62	70.12	19.09	113.11	18.88	213.26	22.61	328.83	18.92	567.38	25.11
OCT	7.37	2.86	8.35	2.50	49.51	8.27	57.77	6.12	86.41	4.97	91.47	4.05
TOT	257.20	100	367.28	100	599.03	100	943.36	100	1,738.14	100	2,259.67	100

a Business share only; the personal share is treated as a current transfer from persons.
SOURCE: Statistics Canada (CANSIM): Provincial Accounts.

TABLE IA.7
Provincial revenues - Ontario (in millions of current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	118	10.06	449	22.15	958	22.97	1,541	22.38	3,125	26.53	4,573	28.10
CIT	180	15.35	247	12.19	380	9.11	623	9.05	735	6.24	1,347	8.28
CTPC	303	25.83	325	16.03	691	16.57	1,202	17.45	2,382	20.22	2,891	17.76
MVLP[a]	43	3.67	55	2.71	73	1.75	107	1.55	126	1.07	141	0.87
MTNR	1	0.09	1	0.05	2	0.05	4	0.06	4	0.03	3	0.02
RPT	2	0.17	2	0.10	1	0.02	3	0.04	2	0.02	2	0.01
RST	47	4.01	217	10.71	677	16.23	1,291	18.75	2,093	17.77	2,803	17.22
GAS	172	14.66	249	12.28	382	9.16	528	7.67	600	5.09	748	4.60
G MISC	183	15.60	273	13.47	495	11.87	921	13.37	1,685	14.30	2,429	14.93
OCT	124	10.57	209	10.31	512	12.28	667	9.68	1,028	8.73	1,337	8.22
TOT	1,173	100	2,027	100	4,171	100	6,887	100	11,780	100	16,274	100

a Business share only; the personal share is treated as a current transfer from persons.
SOURCE: Statistics Canada (CANSIM): Provincial Accounts.

TABLE IA.8
Per capita provincial revenues - Ontario (in current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	18.92	10.06	66.15	22.15	129.72	22.97	194.85	22.38	374.03	26.53	530.22	28.10
CIT	28.86	15.35	36.39	12.19	51.46	9.11	78.77	9.05	87.97	6.24	156.18	8.28
CTPC	48.59	25.83	47.88	16.03	93.57	16.57	151.98	17.45	285.10	20.22	335.20	17.76
MVLP[a]	6.90	3.67	8.10	2.71	9.88	1.75	13.53	1.55	15.08	1.07	16.35	0.87
MTNR	0.16	0.09	0.15	0.05	0.27	0.05	0.51	0.06	0.48	0.03	0.35	0.02
RPT	0.32	0.17	0.29	0.10	0.14	0.02	0.38	0.04	0.24	0.02	0.23	0.01
RST	7.54	4.01	31.97	10.71	91.67	16.23	163.24	18.75	250.54	17.77	3.25	17.22
GAS	27.58	14.66	36.68	12.28	51.73	9.16	66.76	7.67	71.81	5.09	86.73	4.60
G MISC	29.35	15.60	40.22	13.47	67.03	11.87	116.45	13.37	201.68	14.30	281.63	14.93
OCT	19.88	10.57	30.79	10.31	69.33	12.28	84.34	9.68	123.04	8.73	155.02	8.22
TOT	188.10	100	298.62	100	564.79	100	870.80	100	1,409.95	100	1,886.91	100

a Business share only; the personal share is treated as a current transfer from persons.
SOURCE: Statistics Canada (CANSIM): Provincial Accounts.

TABLE IA.9
Provincial revenues - Quebec (in millions of current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	144	16.31	362	21.14	910	28.99	2,051	36.34	4,706	41.87	6,162	41.11
CIT	124	14.04	161	9.40	195	6.21	311	5.51	397	3.53	695	4.64
CTPC	205	23.22	371	21.67	697	22.20	1,277	22.63	2,901	25.81	3,876	25.86
MVLP[a]	26	2.94	33	1.93	51	1.62	78	1.38	137	1.22	277	1.85
MTNR	3	0.34	4	0.23	5	0.16	5	0.09	8	0.07	6	0.04
RPT	0	0	0	0	0	0	0	0	0	0	0	0
RST	116	13.14	348	20.33	592	18.86	881	15.61	1,547	13.76	1,871	12.48
GAS	101	11.44	184	10.75	280	8.92	371	6.57	442	3.93	495	3.30
G MISC	141	15.97	213	12.44	347	11.05	593	10.51	984	8.75	1,296	8.65
OCT	24	2.72	36	2.10	62	1.98	77	1.36	118	1.05	311	2.07
TOT	883	100	1,712	100	3,139	100	5,644	100	11,240	100	14,989	100

a Business share only; the personal share is treated as a current transfer from persons.
SOURCE: Statistics Canada (CANSIM): Provincial Accounts.

TABLE IA.10
Per capita provincial revenues - Quebec (in current $)

	1961		1965		1969		1973		1977		1981	
Category	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total	Value	% of total
PIT	27.38	16.31	63.68	21.14	152.05	28.99	337.40	36.34	747.55	41.87	957.10	41.11
CIT	23.58	14.04	28.32	9.40	32.58	6.21	51.16	5.51	63.06	3.53	107.95	4.64
CTPC	38.98	23.22	65.26	21.67	116.46	22.20	210.07	22.63	460.83	25.81	602.03	25.86
MVLP[a]	4.94	2.94	5.80	1.93	8.52	1.62	12.83	1.38	21.76	1.22	43.02	1.85
MTNR	0.57	0.34	0.70	0.23	0.84	0.16	0.82	0.09	1.27	0.07	0.93	0.04
RPT	0	0	0	0	0	0	0	0	0	0	0	0
RST	22.06	13.14	61.21	20.33	98.91	18.86	144.93	15.61	245.74	13.76	290.61	12.48
GAS	19.20	11.44	32.37	10.75	46.78	8.92	61.03	6.57	70.21	3.93	76.88	3.30
G MISC	26.81	15.97	37.47	12.44	57.98	11.05	97.55	10.51	156.31	8.75	201.30	8.65
OCT	4.56	2.72	6.33	2.10	10.36	1.98	12.67	1.36	18.74	1.05	48.31	2.07
TOT	167.90	100	301.14	100	524.48	100	928.46	100	1,785.49	100	2,328.14	100

a Business share only; the personal share is treated as a current transfer from persons.
SOURCE: Statistics Canada (CANSIM): Provincial Accounts.

Appendix IB
Personal income by province

TABLE IB.1

Personal income (in millions of current $)

	1961	1965	1969	1973	1977	1981
Canada	30,104	41,071	61,804	97,832	171,303	280,413
Newfoundland	440	604	923	1,526	2,848	4,276
P.E.I.	102	137	205	355	598	963
Nova Scotia	946	1,181	1,766	2,850	4,913	7,667
New Brunswick	671	880	1,295	2,105	3,783	5,757
Quebec	7,828	10,685	15,565	24,067	43,037	68,637
Ontario	12,187	16,537	25,629	39,884	67,164	106,825
Manitoba	1,436	1,892	2,704	4,244	7,059	11,087
Saskatchewan	1,084	1,789	2,269	3,673	6,373	11,212
Alberta	2,199	2,941	4,589	7,471	14,575	28,586
British Columbia	3,091	4,271	6,645	11,331	20,348	34,403
Yukon & N.W.T.	59	69	122	235	459	814

SOURCE: Statistics Canada (CANSIM): Tables on 'Personal Income - Geographical Distribution'.

Growth rate of personal income

	1961	1965	1969	1973	1977	1981
Canada	--	36.43	50.48	58.29	75.10	63.69
Newfoundland	--	37.27	52.81	65.33	86.63	50.14
P.E.I.	--	34.31	49.63	71.17	68.45	61.04
Nova Scotia	--	24.84	49.53	61.38	72.39	56.06
New Brunswick	--	31.15	47.16	62.55	79.71	52.18
Quebec	--	36.50	45.67	54.62	78.82	59.48
Ontario	--	35.69	54.98	55.62	68.40	59.05
Manitoba	--	31.75	42.92	56.95	66.33	57.06
Saskatchewan	--	65.04	26.83	61.88	73.51	75.93
Alberta	--	33.74	56.04	62.80	95.09	96.13
British Columbia	--	38.18	55.58	70.52	79.58	69.07
Yukon & N.W.T.	--	16.95	76.81	92.62	95.32	77.34

TABLE IB.2

Per capita personal income (in $)

	1961	1965	1969	1973	1977	1981
Canada	1,651	2,091	2,943	4,438	7,365	11,520
Newfoundland	961	1,238	1,796	2,842	5,050	7,528
P.E.I.	971	1,257	1,847	3,114	4,983	7,829
Nova Scotia	1,284	1,562	2,279	3,545	5,884	9,041
New Brunswick	1,122	1,431	2,062	3,253	5,507	8,272
Quebec	1,488	1,880	2,601	3,959	6,857	10,661
Ontario	1,954	2,436	3,470	5,043	8,039	12,386
Manitoba	1,557	1,961	2,762	4,261	6,860	10,806
Saskatchewan	1,172	1,883	2,368	4,059	6,801	11,583
Alberta	1,651	2,028	2,944	4,421	7,683	12,779
British Columbia	1,897	2,377	3,226	4,922	8,159	12,538
Yukon & N.W.T.	1,595	1,683	2,596	3,917	7,172	11,797

SOURCE: Statistics Canada (CANSIM): Tables on 'Personal Income Per Person - Geographical Distribution'.

Growth rate of per capita personal income

	1961	1965	1969	1973	1977	1981
Canada	--	26.65	40.75	50.80	65.95	56.42
Newfoundland	--	28.82	45.07	58.24	77.69	49.07
P.E.I.	--	29.45	46.94	68.60	60.02	57.11
Nova Scotia	--	21.65	45.90	55.55	65.98	54.65
New Brunswick	--	27.54	44.10	57.76	69.29	50.21
Quebec	--	26.34	38.35	52.51	73.20	55.84
Ontario	--	24.67	42.45	45.33	59.41	54.07
Manitoba	--	25.95	40.85	54.27	61.00	57.52
Saskatchewan	--	60.67	25.76	71.41	67.55	70.31
Alberta	--	22.83	45.17	50.17	73.78	66.33
British Columbia	--	25.30	35.72	52.57	65.77	53.67
Yukon & N.W.T.	--	5.52	54.25	50.89	83.10	64.49

Appendix IC
Experience abroad[1]

Frequent concern has been expressed about the 'balkanizing' effects of independent provincial income taxes in Canada. It may prove rather reassuring in this respect to review briefly the experience with separate income taxes in Switzerland and the United States - federal states which have gone much further in this direction than Canada seems likely to go.

SWITZERLAND[2]

In Switzerland, as in all countries, intergovernmental fiscal arrangements are the result of political compromises and adjustments. That there is hardly any apparent economic rationale behind today's division of taxing power between levels of government is thus not too surprising. In Switzerland, as in Canada, the initial federalist idea was that indirect taxation should be reserved to the confederation (the federal level), whereas direct taxation should be a cantonal (provincial) matter. The cantons, however, have full fiscal sovereignty: specifically, the right to levy all taxes not expressly reserved in the constitution to the confederation, the right to legislate on these taxes, and the right to dispose of the proceeds as they see fit. (Municipalities, however, have only delegated fiscal sovereignty: they are only entitled to levy taxes where a canton delegates its powers.)

Because the Swiss constitution does not give the confederation permanent or exclusive power to levy an income tax, there is at present substantial tax competition with the cantonal-municipal income tax. Municipal (or district) income taxes are 'piggybacked' on cantonal taxes;

1 This appendix was prepared by Richard M. Bird.

2 Based on Roland Duss and Richard M. Bird, 'Switzerland's 'Tax Jungle'', Canadian Tax Journal, 27, January-February 1979, 46-67.

TABLE IC.1
The tax treatment of the income of a married Swiss woman, 1978
.(computed for the capital city of each canton)

Canton (capital city)	Single Sfr. 20,000	Single Sfr. 40,000	Married: husband 40,000, wife 20,000	Fiscal advantage of the unmarried state (40,000 & 20,000)
Ticino	1105	4704	9028	3219
Valais	1523	5175	8899	2201
Thurgau	1593	5415	9084	2076
Basle-City	1207	5142	8412	2063
Glarus	1347	5467	8868	2054
Schwyz	1392	4886	8275	1997
Grisons	1089	4153	7124	1882
Aargau	1440	5055	8254	1759
Neuchatel	1604	5432	8760	1724
Nidwalden	1241	4112	7066	1713
Fribourg	1948	5667	9287	1672
St. Gallen	1760	5974	9341	1607
Vaud	1907	5545	8965	1513
Solothurn	1821	5533	8796	1442
Lucerne	1899	5752	9080	1429
Appenzell I Rh	1484	4651	7521	1386
Schaffhausen	1864	5938	9117	1315
Appenzell O Rh	1689	5384	8292	1219
Obwalden	1668	4876	7749	1205
Berne	1813	5759	8718	1146
Basle-Country	1369	4859	7345	1117
Zug	1216	4095	6361	1050
Uri	1662	4285	6785	838
Geneva	1935	6460	9199	804
Zurich	1360	4909	6679	410
Federal tax for national defense	101	580	1272	591

NOTE: Based on labour income only. Standard deductions are considered, including the deduction for married persons and for the income of the wife.
SOURCE: Weltwoche, February 15, 1978.

that is, municipal taxes are based on the cantonal tax laws, but the municipalities determine their own tax rates. In other words, the Swiss cantonal-local relationship is much closer to the Canadian federal-provincial setup than is the Swiss federal-cantonal system. The twenty-six cantonal tax systems have evolved over time quite independently, responding to the particular financial needs and cultural traditions of their respective cantons. It has only been since 1970, for example, that all cantons have

had a general income tax.

The 1970s saw considerable activity but little success in the field of fiscal harmonization in Switzerland. There are at present twenty-six very different cantonal income tax laws and one federal income tax law. As a consequence, there are wide differences in the taxation of income both for individuals and for companies. For the same income, for example, an individual can pay twice as much in canton B as in canton A. Nevertheless, a federal initiative (a method of placing a referendum before the people) aimed at the creation of a unique federal income tax, with participation of the cantons in the proceeds, was defeated in 1976. A federal initiative for the introduction of equalized cantonal direct taxation and especially for a single company-tax system was defeated in 1977.

Not only do tax rates and brackets vary widely from canton to canton, but so do the formulas used to determine taxable income. The variety of income tax arrangements in the various Swiss cantons is, to Canadian eyes, simply astounding. Table IC.1 provides one small example of the prevailing diversity.

Perhaps the main thing to be learned from Swiss federalism is that a federal system based on a strong reliance on cantonal sovereignty can work even in the face of wildly different personal (and other) tax systems. Federalism has not only economic objectives, but also political-legal and socio-cultural aims. The example of Switzerland shows that at least one country has been willing to pay a much higher price in terms of tax complexity to achieve the latter aims than has Canada. It is also difficult to detect any significant economic penalties that have been incurred by the Swiss as a result of their highly untidy income tax system. The point is <u>not</u> that Switzerland is necessarily a model of what Canada would, or should, become with increased provincial fiscal diversity; it is rather that, even with a far more diverse tax system anything likely to emerge in Canada, the Swiss economy seems to function quite well.

THE UNITED STATES

At present, forty-one of the fifty U.S. states have relatively broad-based personal income taxes. The diversity of these systems is perhaps adequately indicated by the following two tables. The first sketches in broad form the relative degrees of 'conformity' between state and federal taxes, while the second provides a rough idea of the variation in tax

treatment from state to state. A certain degree of vertical tax coordination results because these taxes are deductible for federal income tax purposes, although it has been argued that this degree of coordination may undesirably bias state choices of revenue systems. A recent authoritative U.S. study has also argued that there is good reason for state tax bases to be different from each other and from the federal base.[3] The problem of horizontal coordination in the U.S. system has also given rise to some discussion, since taxpayers may often find themselves subject to taxes on the same income in two states, with crediting arrangements depending on the particular reciprocal arrangements (if any) worked out between the states.

In general, if Canada is to move further in the direction of independent personal income taxes, a much closer examination of U.S. experience and problems - at generally much lower rates than would obtain in Canada - would seem to be required. At the least, however, as in the case of Switzerland, it can be safely said that U.S. experience, whatever the problems, shows that much more fiscal diversity than prevails in Canada can be tolerated in an effective common market.

3 George F. Break, Financing Government in a Federal System (Washington: Brookings Institution, 1980).

TABLE IC.2
Extent of state personal income tax conformance to the federal personal income tax base, by state, 1980[a]

States with broad-based personal income taxes	Virtually complete conformance[b,c]	Substantial conformance[c,d]	Moderate conformance[e]	Non-conformance
Alabama				X
Alaska		X		
Arizona			X	
Arkansas				X
California				X
Colorado			X	
Delaware			X	
Georgia			X	
Hawaii		X		
Idaho		X		
Illinois			X	
Indiana			X	
Iowa			X	
Kansas			X	
Kentucky			X	
Louisiana	X[f]			
Maine			X	
Maryland			X	
Massachusetts			X	
Michigan			X	
Minnesota			X	
Mississippi				X
Missouri			X	
Montana			X	
Nebraska	X			
New Jersey				X
New Mexico		X		
New York			X	
North Carolina				X
North Dakota		X		
Ohio			X	
Oklahoma		X		
Oregon		X		
Pennsylvania				X
Rhode Island	X			
South Carolina				X
Utah		X		
Vermont	X			
Virginia			X	
West Virginia			X	
Wisconsin			X	
Total	4	8	21	8

TABLE IC.2 continued

a Includes only the 41 states with broad-based personal income taxes.

b Virtually complete conformance - those that compute state tax liability as a percentage of the federal tax liability. In effect, three of the states in this class apply the same personal exemptions and deductions (with minor adjustments) as does the federal government and, in addition, accept the highly graduated federal rate structure, albeit at a lower level. The other state, Louisiana, incorporates its own larger personal exemptions (single - $2,500, married or head of family - $5,000, dependents - $400) in the tax tables provided; these are based on federal income tax liability, instead of on a separate computation of Louisiana net income and tax. See note f.

c Adjustments are usually made for state exemption of income from federal securities and for state taxation of certain state and local securities which are exempt for federal purposes.

d Substantial conformance - those that define taxable income by reference to the Internal Revenue Code. Like three of the four states with greater conformance, the eight states in this group accept the federal personal exemptions and deductions, with minor adjustments. However, they apply their own rate structures to taxable income.

e Moderate conformance - those that define adjusted gross income by reference to the Internal Revenue Code. The 21 states in this class accept the exclusions from and additions to income used to arrive at federal adjusted gross income, but they apply their own personal exemptions and/or deductions as well as rate structures.

f For tax years beginning after December 31, 1974, the amount of tax is determined from tax tables based on the amount of federal tax liability. However, the tax may not exceed the following rates on taxable income; up to $10,000 - 2 per cent; next $40,000 - 4 per cent; over $50,000 - 6 per cent.

SOURCE: U.S. Advisory Commission on Intergovernmental Relations, Features of Fiscal Federalism (Washington, 1980). ACIR staff computations based on Commerce Clearing House, State Tax Reporter.

TABLE IC.3
Effective rates of state personal income taxes for selected adjusted gross income levels, married couple with two dependents, by state, 1977[a]

State	Adjusted gross income class							
	$5,000	$7,500	$10,000	$15,000	$17,500	$20,000	$25,000	$50,000
Alabama*	0.3%	1.1%	1.7%	1.5%	1.9%	2.0%	2.3%	2.6%
Alaska	--	0.4%	1.0%	1.6%	1.9%	2.0%	2.5%	4.4%
Arizona	0.6%	1.2%	1.6%	1.3%	1.7%	1.9%	2.5%	3.4%
Arkansas	--	1.1%	1.6%	1.7%	2.1%	2.3%	2.9%	4.5%
California[b]	-0.7%	-0.5%	-0.4%	1.1%	1.6%	1.8%	2.5%	5.6%
Colorado*[b]	-0.5%	0.8%	1.4%	1.1%	1.7%	2.0%	2.6%	3.6%
Delaware*	0.8%	1.8%	2.5%	2.7%	3.5%	3.9%	4.7%	7.1%
District of Columbia[b]	-0.1%	1.7%	2.7%	2.8%	3.4%	3.7%	4.6%	7.0%
Georgia	--	0.3%	0.8%	1.2%	1.7%	2.0%	2.7%	4.0%
Hawaii[b]	-3.4%	-0.6%	1.3%	2.6%	3.2%	3.6%	4.3%	6.0%
Idaho	-1.2%	**	1.0%	1.8%	2.5%	2.8%	3.6%	5.1%
Illinois	0.5%	1.2%	1.5%	1.8%	1.9%	2.0%	2.1%	2.3%
Indiana	1.0%	1.3%	1.5%	1.7%	1.7%	1.8%	1.8%	1.9%
Iowa*	1.1%	2.2%	2.8%	2.4%	2.8%	2.7%	3.4%	4.5%
Kansas*	--	0.7%	1.0%	1.2%	1.5%	1.6%	2.0%	3.1%
Kentucky	0.5%	1.9%	2.5%	2.0%	2.4%	2.6%	2.9%	3.2%
Louisiana*	--	--	0.6%	0.9%	1.0%	0.9%	1.0%	1.5%
Maine	--	0.2%	0.4%	0.7%	1.0%	1.3%	2.1%	4.7%
Maryland	0.6%	1.7%	2.5%	2.3%	2.6%	2.7%	3.1%	3.8%
Massachusetts[b]	-0.5%	1.9%	2.7%	3.3%	3.6%	3.8%	4.0%	4.6%
Michigan[c]	-1.6%	**	1.5%	0.8%	1.0%	1.3%	1.4%	2.6%
Minnesota*[d]	-6.9%	-3.2%	1.4%	4.8%	5.6%	5.9%	6.7%	7.7%
Mississippi	--	--	0.4%	0.7%	1.1%	1.3%	1.8%	2.7%
Missouri*	--	0.2%	0.7%	1.0%	1.4%	1.6%	2.1%	2.8%
Montana*	1.0%	2.0%	2.8%	2.2%	2.7%	3.0%	3.6%	4.9%

TABLE IC.3, continued

State	Adjusted gross income class							
	$5,000	$7,500	$10,000	$15,000	$17,500	$20,000	$25,000	$50,000
Nebraska	-1.6%	-0.6%	0.2%	1.3%	1.6%	1.6%	2.1%	3.7%
New Jersey[b]	--	0.1%	0.6%	1.5%	1.5%	1.6%	1.7%	2.1%
New Mexico[b]	-2.8%	-1.7%	-0.9%	0.1%	0.5%	0.8%	1.4%	3.6%
New York	--	1.3%	2.1%	2.4%	3.0%	3.3%	4.4%	8.5%
North Carolina	0.8%	1.8%	2.6%	2.5%	3.1%	3.3%	3.9%	5.1%
North Dakota	--	0.4%	0.8%	1.1%	1.7%	2.2%	3.1%	4.3%
Ohio	0.2%	0.3%	0.5%	0.8%	1.0%	1.2%	1.5%	2.3%
Oklahoma*	0.1%	0.3%	0.5%	0.6%	0.9%	1.1%	1.8%	3.4%
Oregon*	0.7%	2.3%	3.0%	2.8%	3.3%	3.6%	4.3%	6.2%
Pennsylvania	--	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Rhode Island	--	--	0.8%	1.6%	1.7%	1.7%	2.1%	3.6%
South Carolina*	0.5%	1.2%	1.6%	1.7%	2.2%	2.6%	3.3%	4.8%
Utah*	0.4%	1.4%	2.0%	2.1%	2.6%	2.9%	3.4%	4.0%
Vermont	-0.6%	0.2%	1.1%	2.3%	2.6%	2.5%	3.1%	5.3%
Virginia	0.5%	1.1%	1.8%	2.1%	2.2%	2.6%	3.1%	4.1%
West Virginia[b]	0.9%	1.2%	1.4%	1.3%	1.5%	1.6%	1.9%	3.0%
Wisconsin[b]	-4.8%	1.8%	3.3%	3.7%	4.4%	4.7%	5.6%	7.4%
Median rate	--	0.75%	1.45%	1.70%	1.90%	2.00%	2.65%	4.00%
Federal tax	-6.0%	-0.1%	4.5%	9.2%	10.2%	10.2%	12.5%	21.1%

-- Indicates no tax liability.
* Federal income tax deductible, limited in several states.
** Less than .05 per cent.
a Based upon tax liability on income earned during calendar year 1977.
b Negative rates result from credits allowed for consumer type taxes paid and/or property tax or renter credits; if the credit exceeds the tax liability the taxpayer can apply for a refund.
c Includes credits for estimated city (Detroit) income and property tax payments.
d Includes renter credits for the first three income classes. Homeowners under 65 receive property tax refunds as a direct cash payment and cannot use their refund as a credit on their income tax returns.

TABLE IC.3, continued

NOTE: 'Effective rates' are computed as the ratio of tax liability to adjusted gross income and are expressed in percentages (i.e., income after business deductions but before personal exemptions and other allowable deductions). In computing income taxes, it was assumed that all income was from wages and salaries and earned by one spouse. In computing the state income taxes for the $5,000, $7,500, and $10,000 income classes, the optional standard deductions, low income allowances, and optional tax tables were used. For the other income classes (based on deductions claimed on federal income tax returns), the following estimated itemized deductions were assumed: $15,000 - $3,830, $17,500 - $3,915, $20,000 - $4,850, $25,000 - $5,115, and $50,000 - $7,875. For federal tax computations, the zero bracket amount ($3,200) and the earned income credit applied for the $5,000 and $7,500 classes, the zero bracket amount for the $10,000 and $15,000 classes, and the average of the zero bracket amount and estimated itemized deductions for the $17,500 class. For the remaining classes, the following estimated itemized deductions were assumed: $20,000 - $5,200, $25,000 - $5,850, $50,000 - $10,100 (state itemized deductions with the addition of estimated state income taxes and less certain deductions not allowed under federal law). Excludes the following states with limited personal income taxes: Connecticut (capital gains and dividends), New Hampshire and Tennessee (interest and dividends).

SOURCE: U.S. Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism (Washington, 1980). ACIR staff computations based on Commerce Clearing House, State Tax Reporter; and Department of the Treasury, Internal Revenue Service, Your Federal Income Tax, 1978 edition.

PART I
Historic Background

1
The history of personal income tax collection in Ontario

The Province of Ontario, as a unit, has never collected its own personal income tax. For the first fifty years of Confederation, the tax was collected by the municipalities, and after that, with one five-year hiatus when the tax was not collected at all, it was collected by the federal government. In light of these bare facts, it would seem that the tax collection system in Canada has tracked a rather smooth history, and that Ontario's announcement that it wants to consider the economic consequences of opting out of the Tax Collection Agreements, with a view to administering its own personal income tax, stands as a dramatic departure from past achievements in tax harmony.

Yet a closer look indicates that this is not the case. Federal-provincial fiscal negotiations have long been checkered with conflict and dissension. There are several reasons for this. First, there is an evident mismatch between the constitutional responsibilities of the two levels of government and their powers to raise money. Second, there is joint occupancy of many of the same tax fields. Third, there are striking disparities in the fiscal capacities of the provinces themselves.[1] Moreover, the provinces are caught between conflicting demands for fiscal cooperation and provincial autonomy. It follows that the negotiation process is almost necessarily adversarial. Ontario's announcement must be set within the context of this historical revenue tug-of-war.[2]

Most of the history of Canada since Confederation is reflected in the evolution of fiscal federalism. It has been stated that federalism is a

1 J.C. Strick, Canadian Public Finance (Montreal: Holt, Rinehart and Winston, 1973), 94.

2 Expression initiated in Perrin Lewis, 'The Tangled Tale of Taxes and Transfers', in Canadian Confederation at the Crossroads: The Search for a Federal-Provincial Balance (Vancouver: The Fraser Institute, 1978), 42.

process rather than a structure;[3] this is clearly evidenced by the way in which the country has moved back and forth towards and away from centralization. These shifts in direction have come about in accordance with the temper of the times. During periods of depression or prosperity, the provinces have drawn away from the centre as if a centrifugal force were at work, whereas during the two world wars the federal government reasserted its authority and the provinces were once again drawn towards the centre. It is accordingly useful to study the history of federal and provincial tax collection, and fiscal arrangements in general, as mapped out by these periods.

To briefly review these historical periods, as defined by fiscal federalism: initially, fiscal power was concentrated in federal hands, as intended by the Fathers of Confederation. Provincial budgets consisted largely of federal subsidies. During the depression of the late nineteenth century, however, the provinces became obliged to fend for themselves, and consequently they entered into the field of direct taxation for the first time. When the First World War began to make heavy demands on the national purse, the federal government decided to follow suit, initiating a joint exploitation of the same tax fields that eventually resulted in the tax jungle of the 1930s. The Rowell-Sirois Report, issued in 1940, concluded that the only way out of the jungle was a realignment of the constitutional taxing powers through an extra-constitutional arrangement. At first the provinces were unwilling to sign the Tax Rental Agreements, but as the Second World War progressed they agreed to temporarily surrender their powers. By the end of the war, however, the federal government had reacquired enough hegemony in other fields as well to get most of the provinces to agree to sign the agreements again. Only Ontario and Quebec refused. The agreements were signed yet again in 1952, and this time Ontario opted in. However, growing dissatisfaction with the Tax Rental Agreements on both sides led to the Tax Sharing Agreements of 1957 and the Tax Collection Agreements of 1962. These last agreements remain essentially in place today. They have survived because they strike a precarious balance between the need for tax harmony and the pressure for provincial autonomy. Yet now that balance is in jeopardy, for several provinces have broken, or are at least straining at, the tight leash of

3 Canada, Federalism and Decentralization: Where Do We Stand? (Ottawa: Queen's Printer), 48.

federal fiscal control. The growing discord in federal-provincial relations in general is now resounding in the fields of tax harmony.

THE EARLY YEARS: 1867-1917

It is safe to say that the Fathers of Confederation neither intended nor even anticipated that there would ever be such fluctuations in the distribution of power between the federal and provincial governments. The lion's share of taxing powers was very pointedly placed in federal hands, and it is a truism that the government that taxes is the government with the upper hand. By virtue of s.91(3) of the British North America Act, the federal government was granted power for 'The raising of Money by any Mode or System of Taxation'. In constrast to this plenary power, the provincial governments were granted a taxing power that was limited in two important respects - it had to be imposed directly, and it could only be exercised for provincial purposes. The rationale was that by limiting the provinces to the power of direct taxation it could readily be determined whether the effect of the tax was confined to provincial boundaries, and therefore to provincial purposes. The Fathers of Confederation were very concerned that a broader taxing power might be used to set up interprovincial barriers (which demonstrates how perennial this Canadian problem is). Indeed, they were reluctant to confer upon the provinces any taxing power at all, but recognized that they had to do so in order that the provinces, in turn, would be able to confer this power upon the municipalities, which were the main taxing authorities at the time. Nevertheless, direct taxes were very unpopular during this period, and it was hoped that this political disincentive would prevent the provinces from ever taking advantage of their power to impose them.

It was not expected that this constitutional division of the taxing powers would leave the provinces substantially short of revenue. After all, what were then the most costly financial responsibilities had been given to the federal government. The Dominion was put in charge of national defence, economic development, and transportation. The provinces were put in charge of education, health, social welfare, roads, and local government. It was expected that these provincial responsibilities, although very important, would remain stable in their draw upon the public purse; perhaps, with time and development, this draw would even decrease.

Nevertheless, the Fathers of Confederation did acknowledge that the provinces would have to be compensated in some measure for giving up their rights to levy the lucrative custom and excise taxes. The provinces had surrendered these rights to the Dominion in exchange for the federal level of government assuming their debts. Although the provinces still enjoyed the revenue flow from such sources as property taxes, charges, and licences, this revenue would not make up for the shortfall. Indeed, it amounted to only one-fifth of former provincial revenues.

A way had to be found to make up some of this difference. The choice was limited to either granting a broader taxing power or providing for federal subsidies. The Fathers of Confederation were too concerned about the potential misuse of a broader power to favour the former option. Yet neither were they pleased by the prospect of entrenching in the constitution annual federal subsidies to the provinces. Nevertheless, it was concluded that the latter option was the less objectionable one. It is to be noted, however, that the BNA Act specifically provided that these subsidies were to be paid 'in full Settlement of all future Demands on Canada'.[4] This clause reads very ironically today, not only in light of fiscal arrangements as they have developed, but also in light of developments immediately following Confederation.

It was not long before the semblance of balance achieved in the BNA Act began to fall apart. Indeed, only two years later, Nova Scotia threatened to secede from the new nation because it could not tap the sources of revenue it needed in order to finance its expenditures. The Dominion responded by increasing Nova Scotia's subsidy, whereupon the other provinces protested that this was unconstitutional - only to turn these protests into similar calls for increased subsidies as their own expenditures increased. But the federal government was already saddled with a massive debt because of the railway expansion, and, given the growth in the number of provinces, it was reluctant to increase the subsidies. This reluctance was augmented by the worldwide depression that set in in 1873 and did not begin to lift until the turn of the century.

In the circumstances, the provinces had little choice but to use their politically distasteful powers of direct taxation. Municipalities in Ontario had been collecting a personal income tax since 1851, but in 1876 British

4 Section 118 of British North America Act, 1867, repealed by Statute Law Revision Act, 1950, 14 Geo. VI, c. 6 (U.K.).

Columbia became the first province to levy such a tax. Prince Edward Island, in 1894, also established its own personal income tax system. The provincial taxing power began to be exercised in other ways as well. In 1882, Quebec introduced a corporation tax. Challenged as unconstitutional, it was ruled a few years later to be a direct tax and therefore valid. Provincial taxes were getting broader in law as well as in practice. In 1892, Ontario introduced succession duties, an innovation soon taken up by all of the other provinces. The result of all this creativity was that when the federal subsidies finally underwent a major readjustment in 1907, the provinces were no longer as reliant on this source of revenue as they had once been. They had become adept at exploiting their own taxing power. In fact, by the time the First World War began, both the federal and the provincial governments were operating under the false impression that direct taxation was the prerogative of the provinces alone.

THE FIRST WORLD WAR AND ITS FALLOUT: 1917-40

The federal government was sufficiently uncertain about the political wisdom of invading the provincial fields of direct taxation that it delayed doing so until 1917, when it needed access to new sources of revenue in order to back its war effort. Armed with the logic of necessity, it marched boldly into the fields of both personal income tax and corporate income tax. It is interesting to note that upon introducing these taxes in the House of Commons, Thomas White, the then minister of finance, reassured the provinces with the following words:

> ...the income tax is peculiarly within the jurisdiction of the province and is a suitable tax for the purposes of the province and the municipality. In my opinion, the federal government should not resort to an income tax until it is indispensably necessary in the national interest that it would do so.[5]

As was to be expected, these words have been echoed in federal ears over the years by more than one provincial government.

At the time, however, one Quebec cabinet minister was so convinced that the field of income tax was legally an exclusive domain of the provinces that he launched a constitutional challenge to the imposition of the personal income tax. The ruling in Caron v. R.[6] came down from the

5 Hansard, May 15, 1917, 1536.
6 [1924] A.C. 999 (P.C.).

Privy Council in 1922. It held that although the provinces had the right to tax directly, this power was in addition to the federal right to do so, and not carved out of the federal power. The court confirmed that the BNA Act envisaged the joint occupancy of this field.

When the war was over, the federal government abolished a number of special war taxes and reduced its corporate and income taxes to very low rates. The war had left the federal government in a weakened financial state, burdened with both the old debt from the railway program and the new debt from the war effort. Unwilling to take on any new financial responsibilities, it retreated quickly - if not quite completely - from its brief assertion of its central authority. The First World War stands then as only a brief interlude in the provincial tug on the reins of power.

In contrast to the federal government, the provinces were more politically aggressive than ever in assuming new financial responsibilities. Their priorities were peacetime priorities. Responding to the growing use of the automobile and the development of electrical energy, the provinces began to spend a lot of money on highways and power lines. With rather less of an expansionist mentality, they also began to spend much more money on education, health, and social welfare. To meet these new expenditures, they drew upon lucrative new sources of revenue - automobile licence fees, gasoline taxes, and provincial liquor control boards. By the end of the 1920s, provincial and municipal expenditures had risen to half of the federal government's, and federal subsidies accounted for only one-tenth of provincial budgets. This was hardly a state of affairs that could have been foreseen in 1867.

With the prosperity of the 1920s came the joint but uncoordinated exploitation of the same income tax fields. This had several detrimental effects, though nothing like the effects it had during the depression of the 1930s, which faced both levels of government with rising costs and diminishing revenues. The result was a scramble for money. What had previously been the uncoordinated grazing of the same tax fields now became the untethered. There was little intergovernmental cooperation during this period, and little consideration for the taxpayer. The federal rate of corporate income tax was increased, and the personal income tax was doubled. By 1940, all of the provinces but New Brunswick and Nova Scotia had established a personal income tax. The Canadian tax system had slipped into what has since become known as the tax jungle of the 1930s.

This is not to say that there was no perception of the problem. Both levels of government recognized how inefficient and counterproductive the system was becoming. Some reform measures were taken. In 1936, for example, Ontario made a major change in the collection of its personal income tax. The tax had long been collected by the municipalities - since 1851 in some cases - but the yield was still relatively small. The tax base was too narrowly defined, and the collection system was inefficient. It was pointed out that some municipalities did not collect the tax at all, thereby creating tax havens within the province itself. In response to this timeworn criticism, and to the new pressing need to bolster provincial revenues, Ontario decided to set up a more efficient administration assured by a larger area of jurisdiction. In 1936, therefore, it enacted its first Income Tax Act. It is again ironic to note what the provincial treasurer at the time, Premier Mitchell Hepburn, stated to the Legislative Assembly a year after the act was introduced:

> This Act replaced the disgraceful checkerboard system of municipal income tax, full of inequalities, anomalies and hardships. While the Government has, up to this point, been accused of invading a field of municipal taxation, this budget demonstrates that the administration has only acted in the best interests of the taxpayers of Ontario as a whole and, through a system of tax reductions, has more than restored any benefits considered lost by the municipalities. Our measure has, at least, something to do with equity, justice and uniformity.[7]

In tune with this broad policy statement, Ontario simultaneously concluded an agreement with the federal government whereby the Department of National Revenue would administer and collect the new tax. Ontario would not have to duplicate the costly federal collection apparatus, and the taxpayer would not be confronted with two forms to complete. This arrangement proved successful enough that three other provinces presently struck similar bargains with the federal government - Prince Edward Island and Manitoba in 1938, and Quebec in 1940.

Another reform measure contemplated during this period was a constitutional amendment whereby the provinces would be granted the power of indirect taxation. In 1936, the federal government and all nine provinces agreed to this amendment, and it was approved in the House of Commons. Although the measure was later rejected by the Senate, the bare

7 Mitchell F. Hepburn, 1937 Budget Address, 11-12.

fact that the federal government was willing to tolerate the joint occupancy of this tax field as well points to this period as the low water mark in the federal government's authority.

Still, it is clear that the federal government knew that the fiscal structure of the country had to be rethought. This need was further demonstrated when the lack of coordination between Ottawa and the provinces made it difficult to implement an effective anti-depression policy. Hence, in 1937, the federal government gave the Royal Commission on Dominion-Provincial Relations a mandate to re-examine 'the economic and financial basis of Confederation and of the distribution of legislative powers in light of the economic and social development of the last seventy years.' This was the first time that such a major review of the success of fiscal federalism had been undertaken, and it was hoped that it might provide a new point of departure.

THE ROWELL-SIROIS REPORT AND THE WARTIME TAX AGREEMENTS: 1940-47

The Royal Commission tabled its report, commonly known as the Rowell-Sirois Report, in 1940. Although the report provided an excellent study of the issues at hand, its recommendations were poorly received by the provinces. The Commissioners had concluded that the only solution was federal hegemony in the fields of corporate and personal income tax collection, regardless of constitutional rights. Given that the provinces were at the height of their influence, they were not about to quickly surrender these fields. Even before the Commission tabled its report in 1940, some provinces demonstrated their distrust of the whole process and their suspicion of the results. Quebec and Alberta refused from the outset to participate in the meetings. Ontario participated for a few months, but then officially disassociated itself from the Commission. The federal government had made some changes in the tax laws after the Commission had begun its work, and Ontario charged it with changing the rules in the middle of the game.

The federal government called a conference in January 1941, hoping to secure adoption of the Commission's recommendations. Predictably, however, the recommendations were rejected as being too centralizing. Nevertheless, because of the atmosphere of emergency generated by the Second World War, by budget time of that same year all of the provinces

had agreed to vacate their fields of direct taxation in exchange for the Dominion paying a rent, calculated on one of two alternate bases. The provinces were prepared to agree to this arrangement because, on the one hand, Ottawa had warned them that if they did not give up control of these tax fields the public's tax burden would become unbearable, and that the federal government would not be willing to compensate the provinces for the losses in revenue caused by wartime measures such as gasoline rationing. On the other hand, Ottawa assured the provinces that this was not an attempt to usurp their constitutional powers. The measure was to be only temporary.

The Wartime Tax Agreements were signed in 1941 and were to be in force for the fiscal years of 1942 to 1947. The former disarray disappeared overnight.

THE TAX RENTAL AGREEMENTS: 1947-57

Two years before the end of the Wartime Tax Agreements, the federal government called a Reconstruction Conference in order to discuss the fiscal arrangements for the country in the post-war period. However, over the war years, many changes had taken place. Canada had operated as a unitary state for several years and the federal government was anxious to maintain that control. Given the condition of the provinces, circumstances were ripe for the federal government to try to do so.

The provinces were faced with tremendous expenditures. During the war public work programs had been cut down to the bone or simply delayed. Moreover, it was expected that there would be a strong surge in demand upon the provinces with respect to services in education, health, and welfare. Most of the provinces were therefore concerned about stable revenues and about avoiding a post-war depression. Finally, Keynesian economic principles were being widely embraced, and the federal government was the only instrument that could implement them.

Still, the richer provinces were quick to reject the federal proposals presented to them in the Green Book on August 6, 1945. The federal government proposed that it retain sole occupancy of the corporate income, personal income, and inheritance tax fields in exchange for certain guaranteed minimum payments. This was acceptable to the poorer provinces, but not at all to the richer ones, which were very wary of granting Ottawa a new five-year lease on their taxing powers. They had

seen other 'temporary' federal measures, such as the federal government's entry into the field of personal income tax in 1917, and were anxious to reassert jurisdiction over their constitutional rights. Drawn-out and acrimonious negotiations ensued. In the end, only seven provinces signed the new Tax Rental Agreements. (Newfoundland joined them when it entered Confederation in 1949.) Ontario and Quebec, whose combined populations represented 63 per cent of the national total and whose combined income tax contributions represented 74 per cent,[8] refused to be brought into the fold.

Both provinces were concerned about the effect of the agreements on their autonomy. Besides, their economies were buoyant and promised to be expanding. Given the progressivity of the corporate and personal income taxes, these two provinces decided that they would be better off if they tied their futures to this expansion and collected their own taxes than they would be if they collected a rent from Ottawa. Expenditures could therefore grow with yields, rather than being fixed by the annual federal handout. Moreover, Ontario was reluctant to trust the good faith of Ottawa yet again. The province felt that it had made a major sacrifice to the war effort by giving up its taxing powers in 1942, whereupon the federal government had invaded the provincial fields of taxation with respect to the sale of wine and liquor. Treasurer of Ontario Leslie Frost, in his budget speech of 1947, even harked back to 1867 and the provinces' surrender of jurisdiction over indirect taxation - in the long term, a sacrifice for which they had gotten little in return.[9]

Ironically, Ontario premier George Drew presented the federal government with a counter-proposal largely similar to the plan put forward by Ottawa in the early 1960s. The provinces would pass uniform tax acts, although each would have the power to vary its rates, and the federal government would act as the national tax collector.[10] The proposal did not however find any supporters in Ottawa at this time.

Ontario also pressed Ottawa for a thorough study of the entire Canadian tax structure. The purpose of the study would be to establish clearly defined and clearly divided powers for the two levels of government. This proposal was also rejected, and Ottawa even took to dealing

8 Leslie M. Frost, 1947 Budget Address, 25.
9 Ibid., 21.
10 Lewis, 92 (note 2).

with the provinces on an individual basis, rather than using federal-provincial conferences as the exclusive forum for discussion.

Quebec was even more concerned about its automony. It viewed the agreements as some sort of long-run takeover bid for its share in the constitutional division of powers. Premier Maurice Duplessis spoke in an impassioned way about the importance of remaining faithful to the scheme set out by the Fathers of Confederation, not only in terms of upholding the division of responsibilities, but also in terms of reserving to each level of government the resources it needed to execute its responsibilities independently. He did not want Quebec to become a mere ward of the federal government. He also continued to assert that the fields of direct taxation belonged exclusively to the provinces, a view that was still being echoed in other provinces as well. All in all, he made it clear that Quebec's stand on the question of rental agreements was a very principled one, and therefore not one on which it was likely to compromise.

Instead, Ontario and Quebec negotiated another route with the federal government. The agreeing provinces could choose to be compensated by one of two combinations of figures (a flat payment was arrived at for Prince Edward Island), while the non-agreeing provinces could elect to levy and collect their own 7 per cent corporate income tax and succession duties, taking advantage, respectively, of 5 and 50 per cent federal tax credits. The spectre of double taxation, so prevalent in the thirties, was thereby avoided. With respect to personal income tax, it was open to both non-agreeing provinces to impose a tax up to 5 per cent of the federal levy without additional cost to their electorates, although neither ended up doing so. Ontario, in order to bring some relief and stimulate its economy, initially suspended its Income Tax Act. In 1950, however, it announced the 5 per cent tax. But Ottawa refused to collect it and the province was very reluctant to set up its own collection machinery, so the tax was never proclaimed.

Yet during the next round of negotiations Ontario was brought back into the fold. In the 1950 Conference, the federal government at first made it clear that, because it was involved in the Korean war effort, it was not willing to make adjustments that would greatly increase its costs. Nevertheless, the federal government did make available a payment formula that would entice Ontario into the agreements. The federal government offered to pay 5 per cent of the personal income tax at 1948 federal rates applied to 1948 incomes, and 8½ per cent of corporation profits earned in

1948, plus the average revenue received by a province from succession duties. In August 1951, Premier Leslie Frost announced that Ontario would sign the agreement, but that it would rent only its corporate and personal income tax fields. The province emphasized that it was doing so merely as a stop-gap measure, pending the working-out of an overall redistribution of the taxing powers.

Quebec responded to this announcement by quickly making it known that its position had not changed. Premier Duplessis, still at the helm, had become even more explicit in his insistence on fiscal autonomy for his province. The federal government was launching several new national programs during this period, and Quebec was determined to stem the tide of centralization. The federal government, conscious of the potential danger of isolating and therefore discriminating against the one remaining non-agreeing province, introduced a new measure into the fiscal arrangements that would somewhat neutralize their effect. The abatement mechanism was employed for the first time. Instead of a non-agreeing province receiving tax credits against the equivalent amount of provincial tax (as Ontario and Quebec had done in 1947-52), the federal tax was reduced by a certain percentage whether or not a provincial tax was exacted.

It was not long before Quebec put Ottawa's sense of fairness to the test. In 1954, the province introduced the only provincially run personal income tax system. It parallelled the federal one, but the rate imposed was 15 per cent of the federal tax, whereas the federal abatement at the time was only 5 per cent. In doing this, Quebec raised the spectre of 10 per cent double taxation - the first major threat to the tax harmony achieved in Canada since the thirties. Ottawa had to react quickly.

Prime Minister Louis St. Laurent met with Duplessis in October of 1954. St. Laurent buckled under the pressure and agreed to raise the federal abatement to 10 per cent. In exchange, Duplessis agreed to withdraw from the legislation a preamble that made the untenable assertion that Quebec had primary jurisdiction over the fields of direct taxation. In the end, Duplessis gained a major concession and set Quebec a goal of fiscal autonomy from which the province has not deviated since.

The federal government, for its part, was left defending these 'special' arrangements to the other provinces. It now looked more attractive to some of them to be on the outside of the agreements than on the inside. St. Laurent advised the provinces that, given these new circumstances, they would be allowed to re-enter their tax fields before

the end of the five-year term, but none of them did so. Nevertheless, Ontario premier Frost stated in his 1955 budget address: 'May I point out, however, that the 1952 agreement was predicated upon a deductibility of five per cent personal income tax and of five per cent corporation income and, therefore, a recomputation based on the deductions allowed to Quebec taxpayers...presents a completely altered picture as far as the Province is concerned.'[11] However, concessions to the rest of the provinces would have to wait until the next round of negotiations.

THE TAX SHARING AGREEMENTS: 1957-62

At the outset of these negotiations in 1955, the federal government made it clear that this time it intended to restructure fiscal arrangements so that no province would be prejudiced by remaining in the agreements. The hope was that the system could be structured so that the only advantage to opting out of the agreements would be the freedom to raise taxes higher than federal rates - at the time, a rather dubious incentive.

The Tax Sharing Agreements were largely a continuation of the tax rentals, but this time the provincial entitlements explicitly recognized the concept of tax sharing. The provinces were to receive a set percentage of federal taxation in each of the three different fields, or, at their option, an abatement of federal taxation in the same amount: 10 per cent of personal income tax, 9 per cent of corporate income tax, and 50 per cent of federal succession duties. The share of personal income tax was raised to 13 per cent for 1958-61.

It also followed from the premise of neutralization that equalization payments would for the first time be dealt with via a separate formula; therefore Quebec was entitled to them whether it agreed to tax sharing or not. The purpose of equalization payments was to bring the level of the per capita yield of the three standard taxes in each province up to the average yield in the two wealthiest provinces at the time, British Columbia and Ontario. The final new feature made part of the agreements during this round was a provision for stabilization payments. This measure was introduced in order to guarantee that the yield of standard taxes plus equalization would not go below the fixed level of payments under the 1952 rental agreements.

11 Leslie M. Frost, 1955 Budget Statement, 28.

Most of the provinces signed these new agreements. Quebec decided to remain completely outside of them, and this time Ontario joined its sister province to the extent of opting out of the agreements with regard to the collection of the corporate income tax. Premier Frost had announced this intention in 1955, and in 1957 the province re-entered the field. It did so partly in order to reap more revenue from the field. The rate imposed was 11 per cent, whereas the federal abatement at the time was 9 per cent. Ontario felt justified in imposing this rate because the province's corporations were profiting by the tremendous economic expansion of the period, and most provincial expenditures were directed towards fuelling that expansion. The province did not feel any need to deviate from the federal tax base, but it was felt that if ever there were any need to do so, Queen's Park would know sooner than would Ottawa, and the province would have the leverage necessary to act.

THE TAX COLLECTION AGREEMENTS: 1962-67

In 1960, when the federal government and the provinces met to consider the next set of fiscal arrangements, it was clear that all parties would be demanding major changes. The Liberal government had been voted out of office since the 1952-57 negotiations, and Prime Minister John Diefenbaker, while in opposition, had been sharply critical of the Tax Sharing Agreements of 1957. While his government was committed to the tripartite formula of centralized tax collection, equalization payments, and stabilization payments, it viewed the tax sharing system itself with more and more disfavour. The federal government was becoming very conscious of the fact that the system fostered a perception of it as the only 'tax man' in the country, while the provinces were seen as the hands of a benign Providence, making available more and more services.

The provinces were also making more and more demands for a greater share of the tax revenues. During the 1960 Conference, Ontario staked its 'fair-share' of federal revenues at 50 per cent of corporate and personal income tax, and Quebec at 25 per cent of corporate and personal income tax and 100 per cent of succession duties (the 25:25:100 formula). The collective bargaining pattern of unrealistic demands was becoming an integral part of the process.

Accordingly, the federal government decided that it was high time for the provinces to be more directly implicated in the tax collection system

upon which they were asserting so much pressure, sheltered as they were from the public's reaction. Hence, in February 1961, the federal government announced that as of March 31, 1962 it would be discontinuing the Tax Sharing Agreements. It was no longer willing to pay the high political price of being the sole watchdog over fiscal harmony.

In place of the Tax Sharing Agreements, the federal government instituted the Tax Collection Agreements, which are still basically in operation today. It is probable that they have been maintained because they recognize the constitutional right of both levels to autonomous access to the same tax fields, while still ensuring a degree of harmony. Under the agreements, the federal government remains the national tax collector, but only on the condition that all of the provinces anchor their own income tax legislation to the same base as the federal Income Tax Act. The provinces still receive a percentage of the federal tax, but if they require more revenues they have the freedom to raise their rates above that percentage. Yet, although the rates may vary, the base remains the same. With this compromise, the federal government gave up on two decades of trying to keep tax rates uniform across the nation.[12] In exchange, it obliged the provinces to look into their own pockets if they needed more money.

Nevertheless, this new arrangement did not stop the provinces from demanding higher and higher shares of the federal revenues. In 1962, for example, the provincial share of the personal income tax yield was raised from 13 to 16 per cent. The provincial share was to go up every year until it reached 24 per cent in 1966. By the time that the abatement system was terminated at the end of 1971, the federal tax was abated by 28 per cent in order to leave tax room for the provinces. This rose to 44 per cent by virtue of an agreement incorporated in the Federal-Provincial Fiscal Arrangements and Established Programs Financing Act of 1977. The increase reflected the replacement of federal matching grants for hospital insurance, medicare, and post-secondary education by a form of 'block funding' that included the transfer of tax points to the provinces. After 1977, the provinces had, in effect, 44 points of tax room. However, Ontario's collections are now 48 per cent of the federal yield, a level exceeded by several other provinces. Another measure of increasing provincial dependence on revenues from PIT is the growth in provincial

12 Lewis, 51.

TABLE 1.1
Percentage of personal income tax relative to total provincial gross revenues from own sources

Fiscal year[a]	Quebec	Ontario	All provinces	All provinces minus Quebec and Ontario
1954[b]	7.5	--	2.2	--
1955	7.3	--	2.3	--
1956	8.1	--	2.5	--
1957	8.7	--	2.4	--
1958	9.5	--	2.6	--
1959	10.1	--	2.7	--
1960	10.6	--	2.8	--
1961	12.2	--	3.5	--
1962[c]	12.5	13.5	11.6	9.2
1963	12.0	13.5	11.5	9.1
1964	15.3	14.2	12.8	9.5
1965	23.9	17.9	17.4	8.4
1966	29.3	19.4	20.5	14.2
1967	27.8	23.3	22.6	17.5
1968	31.9	21.6	22.8	16.5
1969	33.2	20.7	22.9	17.5
1970[d]	31.5	23.0	24.5	19.8
1971	33.3	22.4	24.7	19.1
1972	35.8	23.5	26.2	20.0
1973	36.8	22.9	26.1	20.0
1974	39.4	23.6	26.3	18.4
1975	38.2	24.9	26.7	19.4
1976	41.5	24.3	27.3	18.9
1977	40.0	27.9	27.8	19.2
1978	38.6	30.3	28.1	19.6
1979	35.1	27.7	26.3	19.6

a Each fiscal year ends March 1 of the following year (e.g., fiscal year 1954 ends March 1, 1955).
b Quebec reimposed a tax on personal income in 1954 and was the only province to levy such a tax until 1962.
c On April 1, 1962, there was a change in the tax agreement between the federal government and the provinces.
d From the fiscal year 1970 to 1976, Quebec's tax on personal income included a payroll tax.
SOURCE: Computed from Statistics Canada, Provincial Government Finance: Revenue and Expenditure (Cat. 68-207).

PIT revenues relative to provincial revenues from all other sources. This is shown in Table 1.1.

The sharing-out of PIT revenues was not the only source of contention when the provinces renegotiated the agreements in 1967, in 1972, in 1977, and, most recently, in 1982. Besides fighting for a greater share of federal revenues, the provinces also tried to gain a voice in how the

federal tax system was structured.

This area of contention will be dealt with in the ensuing chapters. However, it would seem clear that for the first ten years of the Tax Collection Agreements the federal government put off the provinces by asserting that it had to concentrate on reforming the system first. It would appear that the federal government was then able to appease the provinces by allowing them to introduce tax credits in 1972. This measure - introduced into a system that was otherwise very rigid for the provinces - permitted a certain degree of flexibility with regard to fiscal policy. The federal government sensed at that point that if the system was to remain too unbending, tax harmony would break against it.

Nevertheless, it now appears that the measure of flexibility introduced in 1972 is proving insufficient. Several provinces are seeking the freedom to be gained from determining their own fiscal policy. Recently, Alberta joined Ontario and Quebec in opting out of the agreements with respect to corporate income tax. Moreover, British Columbia and Ontario have announced in recent budgets that they are studying the question of collecting their own personal income tax as well.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. Ever-changing circumstances, many of them originating outside of Canada, have in the past been accompanied by cyclical shifts in the balance of control over the allocation of resources between the federal government and the provinces. Ontario's request that a review be undertaken of the economic consequences of opting out of the current joint federal-provincial PIT system is perhaps best seen as but an aspect of the current phase of the exercise of pressure and counter-pressure between the federal government and the provinces. The struggle for authority, resources, and voter support is inherent in any federal system. Although often untidy, time consuming, and confusing, this process is the means by which allocations of authority and resources appropriate to new circumstances are accomplished.

2. The Reference to the Ontario Economic Council suggests that the Treasurer of Ontario has been actively considering the net advantages that might be derived from a separate Ontario PIT system. If this step were taken, Canada would obviously have a more decentralized

tax system - particularly if other provinces were to emulate Ontario.

3. If the past is any indication of what the future portends, given the present and prospective general economic malaise, provincially, nationally, and internationally, governments at all levels are now tempted and will no doubt be increasingly tempted to adopt short-sighted, 'beggar thy neighbour' policies. It is vitally important that the Province of Ontario resist this temptation, for if it were to succumb it would almost certainly be quickly emulated by others, to the mutual detriment of us all.

2
The Ontario personal income tax credit system

The government of Ontario has little if any influence on the federal government's decisions to alter the personal income tax structure. That this is a source of concern was explicitly articulated by the provincial treasurer on budget night on May 14, 1982. At present, the province is deeply concerned about the investment climate in Ontario. If Ontario were to assume control of its own personal income tax system, one could reasonably expect that serious attempts would be made to use changes in the system to affect investment. As the matter stands, however, the province has little impact on federal decision-making in this field and limited ability to enhance investment through the PIT system, even though it does determine, within constraints, the PIT credit system administered by the federal government.

The constraints on Ontario's personal income tax powers are exemplified by the Canada-Ontario Tax Collection Agreements, signed under authority of the Federal-Provincial Fiscal Arrangements and Established Programs Financing Act. In the Tax Collection Agreements, Ontario agrees to maintain its own Income Tax Act in a form similar to the federal act and to impose its tax in a manner acceptable to Ottawa. The provincial income tax rate is expressed as a fixed percentage - currently 48 per cent - of the federal tax payable.[1] Ontario can alter the rate, but it cannot alter the tax base (essentially, taxable income minus any adjustments for the dividend tax credit); that is the prerogative of the federal government. This means that provincial income can be affected by federal decisions and that Ontario can be a reluctant party to policy changes which do not advance its interests.

1 Current provincial rates vary from 38 per cent in Alberta to 59 per cent in Newfoundland.

Numerous examples exist of unilateral federal action. For instance, no consultation preceded the 1974 unilateral federal adoption of partial inflation indexing, a move that deeply affected provincial revenues and caused so much consternation that its effects are still being discussed.[2] There was obviously little consultation before the controversial November 12, 1981 budget, and at the last finance ministers' meeting federal officials refused to sit down with their Ontario counterparts and draw up an agenda for the meeting, even though a year and a half had elapsed since the last meeting.[3] It is almost universally agreed that there is little or no consultation about the tax base. Certainly the province is free to make submissions to the Finance Department, and there is no question that some attention will be given to what is presented. However, the provinces do not know in advance how their submissions will relate to budget options which the government has under consideration. Budget secrecy limits the frankness of the federal government's response, or it is used as a rationale for not consulting.[4]

The federal government is willing to gather information from the provinces but reluctant to exchange ideas. This puts the provinces in a position much like that of most taxpayers, except that more weight may be attached to their views. They have input into general economic policy, primarily at first ministers' meetings and meetings of finance ministers, but the specifics of determining the tax base are left to the federal government.

Given the limits to Ontario's power to affect tax policy decisions, tax credits assume great importance as the province's primary means of implementing changes in the tax system. The purpose of this chapter is to explore the reasons why tax credits emerged, how they have evolved, and the opportunities they afford for the pursuit of provincial objectives. In addition, the consultation process, whose inadequacy has contributed to the significance of tax credits, will be examined.

2 See, for example, the 1982 Ontario Budget Paper, 'The Record and Challenge of Fiscal Federalism', 6-7.

3 Interview with Ontario officials, July 1982.

4 Of course the shoe is also on the other foot. Budget secrecy restrains provincial officials from advancing information regarding possible provincial tax changes to the federal Finance Department, except as required under the notice provisions of the Tax Collection Agreements or for the purpose of negotiating agreement on proposed tax credits.

HISTORY OF ONTARIO TAX CREDITS

Since the province has had little input into formulation of the tax base, tax credits have been its main vehicle for implementing tax policy. It is therefore useful to examine the situation that led to the introduction in 1972 of the first Ontario tax credit - for property taxes and rental payments - and compare it with the present state of affairs. In doing this, one can better analyse Ontario's input into the tax system and evaluate its chances of at least partially achieving its goals.

One striking similarity between events leading up to the introduction of the first tax credit and the present situation is the province's suggestion in both situations that it might opt out of the Tax Collection Agreements and institute its own personal income tax system. In the 1969 budget, Treasurer Charles McNaughton stated that Ontario would establish its own tax system within two years.[5] The treasurer complained that the province had no role in determining the structure and method of income taxation for Ontario, and that there was no guarantee that this would change with the upcoming tax reform. Implementation of a fairer, more efficient system, including a lessening of the burden of property taxes, was also mentioned as a goal.

The 1982 budget statement also advanced the idea of pulling out of the Tax Collection Agreements. Again, the federal government's failure to consult the provinces before it introduced new tax policies figured prominently in Ontario's decision to consider this option; indeed, it was probably a more crucial element in 1982 than it had been in 1969.[6] The province also expressed concern over the investment climate.

While there are obvious similarities in the circumstances surrounding the two proposals to opt out, Ontario's position was in fact stronger the first time around. A threat by its very nature is less effective when made for the second time, and, as will be shown, the circumstances were somewhat different in 1969.

The introduction of tax credits in 1972 occurred after a period of intense national discussion about tax reform. Both Ottawa and Ontario were active in proposing ways to reform the tax system, and the province wanted a voice in tax matters. A series of commissions and reports raised

5 See the 1969 Ontario budget, 55.

6 See the 1982 Ontario budget, 13, and the accompanying Discussion Paper, 'Ontario's Tax Structure: Options for Change', 23.

the discussion level on taxation matters and legitimized tax credits as an instrument for provincial policymaking.

The primary vehicle for national tax reform recommendations was the Carter Commission, appointed by the Diefenbaker government in 1962. Although the Commission recognized the importance of federal-provincial consultation, its report concluded that it was important that the federal government make its power felt in the tax area. It emphasized three objectives in terms of federal-provincial relations: common tax bases, harmonized tax rates, and joint tax collection agreements.[7] The Commission did agree philosophically with the introduction of tax credits.[8]

As a parallel to the Carter Commission, the province appointed its own committee to study taxation - the Smith Committee - in 1962. It favoured exemptions as opposed to credits as a means of alleviating regressivity in the tax system.[9] The Committee also acknowledged the great benefits that flow from uniformity in the tax system. However, it worried that under the arrangements proposed by the Carter Commission the province would have no recourse for revenue lost through erosion of the tax base and that the province's right to independent audits would be greatly circumscribed.[10] The Committee proposed that full federal-provincial consultation should take place on an annual basis and that the province should have equal audit rights.

The province followed up the Smith Committee Report with the appointment of the White Select Committee in 1967. This committee reported the following year and, on the grounds of equity and progressivity, recommended implementation of a credit, as opposed to exemptions, for sales tax paid.[11] A proposal was also made to turn the Basic Shelter Exemption into a credit.[12] The White Report indicated that Ontario was beginning to accumulate a solid body of evidence for the basic soundness of tax credits. The province finally committed itself to the notion of tax credits in the 1969 budget - the same budget in which it discussed setting up its own tax system. It felt that credits would be a distinct improvement on the

7 Canada, Report of the Royal Commission on Taxation (Ottawa: Queen's Printer, 1966), VI, 187.
8 Ibid., vol. II, 17, for example.
9 Ontario, Report of the Ontario Committee on Taxation (Toronto: Queen's Printer, 1967), II, para. 67, 16.
10 Ibid., I, 33-34.
11 Ontario, Report of the Select Committee of the Legislature on Taxation in Ontario (Toronto: Queen's Printer, 1968), 226-30.
12 Ibid., 39-40.

Basic Shelter Exemption, which lacked political visibility, had no correlation with the value of the home, and varied among municipalities.

Thus, by the time of the 1969 budget, the province had clearly articulated its dissatisfaction with the unilateral federal measures, had made extensive studies to determine what it wanted in a tax system, and had focussed on refundable tax credits as a prime area in which it wanted to make its impact felt. No parallel process appears to be occurring today unless it is commencing with the present study.

On November 7, 1969, the federal government tabled a White Paper on Taxation in which it outlined its responses to the Carter Commission Report. The White Paper expressed considerable skepticism with respect to tax credits, arguing that their introduction would greatly complicate the tax return and the collection mechanism. But the White Paper did concede that the possibility of carrying out credits under revised collection agreements should be discussed.[13] In this manner, the White Paper provided an opportunity for increased provincial participation in the formulation of federal legislation.[14] This occurred primarily at hearings conducted by the House of Commons Standing Committee on Finance, Trade and Economic Affairs and the Senate Committee on Banking, Trade and Commerce. Thus, provincial concern over access to the tax reform process was partly alleviated. The House Committee did not recommend the immediate use of tax credits on a national basis but did suggest that the matter be reviewed at a later date.

Ontario strengthened its bargaining position by issuing a document entitled Ontario Proposals for Tax Reform in Canada, which responded to the federal White Paper with a series of criticisms and proposals. Ontario reiterated its arguments in favour of refundable tax credits and also challenged federal estimates of revenue increases accruing from tax reform. The province's arguments were buttressed by a series of staff papers produced by the Ministry of Treasury, Economics and Intergovernmental Affairs.[15] These studies, widely considered to be of a high quality, were

13 E.T. Benson, Proposals for Tax Reform (Ottawa: Department of Finance, 1969), 83.

14 M.W. Bucovetsky and R.M. Bird, Tax Reform in Canada: A Progress Report. (Toronto: Institute for the Analysis of Social and Economic Policy, 1972), 20.

15 See, for instance, 'Effects of Ontario's Income Tax Proposals', Staff Study, Toronto, Taxation and Fiscal Policy Branch, 1970, and 'Tax Reform and Revenue Growth', Staff Study, Toronto, Taxation and Fiscal Policy Branch, 1970.

a direct reflection of the degree of expertise acquired by the Ontario bureaucracy.[16] Ontario, like the other provinces, also made representations that were instrumental in advancing the interests of some groups for which it felt a particular concern.[17] While Ontario was never fully satisfied with the consultative process, enough opportunities for input were accorded to the province to forestall its intention to opt out.[18]

After the introduction in 1971 of Bill C-259, which would implement tax reform, Ontario treasurer Darcy McKeough stressed his province's 'extensive and constructive' contribution to the national tax reform debate.[19] McKeough claimed that a number of the bill's provisions, such as capital gains realizable on death, had been initially proposed by Ontario. However, he again emphasized that he would have preferred to see tax relief for low-income residents delivered in the form of tax credits rather than increased exemptions. This was the basic position adopted by the Carter Royal Commission on Taxation.[20]

Thus, the national debate on tax reform offered some relief to Ontario's anxiety over its lack of input into the tax system, even if not all its recommendations were acted upon. Moreover, although the federal government had not legislated tax credits on a national basis, the way was open for Ontario to press ahead on tax credits for itself. Some observers have suggested that Ontario's subsequent success in achieving federal agreement to administer the province's tax credits was the result of a tradeoff under which the federal government would administer the credits in return for the tax base remaining exclusively in the federal domain.[21] Others have doubted that there was any tradeoff, at least explicitly, though it may have occurred in the natural course of events.[22] Most likely it was factors other than any implicit or explicit tradeoff that pro-

16 Elaine Todres, 'Adaptive Federalism: Taxation Policy in Canada', Ph.d. dissertation, University of Pittsburg, 1977, 147.

17 See, for example, M.W. Bucovetsky, 'The Mining Industry in the Great Tax Reform Debate', draft, 1975, 25.

18 See, for example, McKeough's statement to the Ontario legislature on April 6, 1971, in which he said that if the federal government came up with unworkable legislation, opting out would have to be considered again.

19 See McKeough's statement to the Ontario legislature on June 21, 1971.

20 See Report of the Royal Commission on Taxation, III, 180 and, with respect to retail sales taxes, V, 78.

21 For example, this was suggested in an interview with Ontario officials in July, 1982.

22 Interview in August 1982 with a federal official, who stated that other federal officials concurred with this view.

pelled the parties into tax credit negotiations. The federal government had hinted at a willingness to undertake further discussion of tax credits in the White Paper on Taxation. After the extensive discussion on tax reform, the natural inclination was to leave the tax base alone for a while to see how the system was working,[23] but the federal government took Ontario's proposal to back out of the Tax Collection Agreements seriously.[24] To have Ontario opt out right after the federal government had so arduously conducted a national debate on tax reform would deprive Ottawa of much of the benefit of its tax reform endeavours. Ontario's bargaining power was also enhanced by its successful challenge of Ottawa on the revenue implications of tax reform. The expertise exhibited in the numerous published staff papers produced by the Ontario bureaucracy also bolstered the province's position. Finally, the province had consistently and forcefully argued for tax credits for a couple of years.

Ontario pressed its case at both the bureaucratic and the political levels. The province advanced its position at meetings of the Continuing Committee of Officials, and on July 12, 1971 Treasurer McKeough raised the issue of tax credits at separate meetings of the federal and provincial ministers of finance and the provincial treasurers. McKeough suggested that, in view of the need for close federal-provincial cooperation, a federal-provincial tax commission should be established.

The idea of a tax commission was elaborated upon in a document called 'Preliminary Outline of a System of Property Tax and Sales Tax Credits for Ontario Taxpayers', which was tabled at a November 1 finance ministers meeting. The 'Preliminary Outline' pointed to the use of credits and sketched the goals of the tax credit system: (1) to refund sales and property tax paid by families and individuals who were too poor to pay income tax and who got no benefit from increases in exemptions; (2) to match income tax burdens more closely to ability to pay; (3) to replace grants and exemptions with credits that more accurately reflected ability to pay; and (4) to achieve better integration of major municipal and provincial taxes.[25] A list of tables showing examples of the operation of tax

23 See the remark by an Ontario official quoted in Todres, 154: 'We were finished with tax reform in general. Then we began to design some credits.'

24 See Todres, 220.

25 See 'Preliminary Outline of a System of Property Tax and Sales Tax Credits for Ontario Taxpayers' (Toronto: Taxation and Fiscal Policy Branch, Department of Treasury and Economics, 1971), 3.

credits was appended to the document.

By raising the tax credit issue and the idea of a tax commission at multilateral meetings, Ontario enhanced the likelihood of other provinces bringing pressure to bear on the federal government.[26] Indeed, Manitoba was actively considering credits at this time. In addition, by doing much of the homework on the credits and clearly defining their objectives, Ontario made it easier for the federal government to accept the idea of credits. It is likely that the idea of a tax commission, one of the recommendations of the Carter Report,[27] was primarily a bargaining ploy, used to encourage a more flexible federal position with respect to credits.

It was only after these multilateral meetings that negotiations began between Ontario and the federal government. Interestingly, the initial contacts were with Revenue Canada, which was reluctant to add to the complexity of the tax system in the year of tax reform and was worried by the idea of other provinces following Ontario's lead. However, the federal Finance Department, worried that Ontario would opt out after a decade spent on tax reform but fully aware of the political constraints, alluded to earlier, faced by the Government of Ontario, pushed the process ahead. In the end, a basic compromise was reached. Two points that came up in the negotiations should be mentioned. Revenue Canada indicated a reluctance to process returns from those who were previously non-filers. Ontario responded with detailed arguments, emphasizing equity considerations; an accord was reached when the province offered to pay an administrative fee. The province also wanted to be the visible dispenser of refunds, but in this it did not have its way.

For Revenue Canada to administer the tax credits, approval of the Finance Department had to be obtained. In agreeing to administer the tax credits, the newly appointed finance minister, John Turner, outlined three criteria. The credits could not alter the uniform progressivity of the income tax, and to meet that stipulation they had to (1) be in respect of other taxes actually paid and (2) apply to all residents in a province whether they were taxpayers or not. Additionally, (3) the details of the program had to be administratively feasible. Following this pronouncement, negotiations were conducted and agreements reached on the set-up

26 See Todres, 163.

27 See Report on the Royal Commission on Taxation, V, 131-35. However, the Carter Report did not specifically deal with provincial government representation on the commission.

of the tax credit form, legislative wording, and costing arrangements.

Ontario had successfully persuaded the federal government to administer the tax credits. The negotiations had been completed in a remarkably short time, and the credits were in place for the 1972 taxation year. After the initial proposals and concerns articulated at multilateral meetings, all the negotiations had been conducted on a bilateral basis at the ministerial and bureaucratic levels. Both sides displayed considerable flexibility once the negotiation process was launched - a flexibility that has persisted until very recently.

Several key factors can be pointed to in Ontario's successful tax credit campaign. (1) The province assumed an active posture with respect to tax credits and was able to support its initiative with quantitative expertise. (2) The federal government, heavily committed to the avoidance of a tax jungle, took seriously the province's threat to set up an independent tax system. (3) Ontario used the federal-provincial conference machinery to assess the preliminary federal reaction and the reactions of other provinces to the proposed tax credit system. (4) The province advanced the suggestion of a federal-provincial tax commission, but abandoned it when Revenue Canada demonstrated its willingness to cooperate. (5) Ontario was able to compromise and come to an accommodation with the federal government. Revenue Canada's cooperation suggested a potential for flexibility which could serve as an important precedent in future negotiations. (6) The tax credits were attractive to the federal government, since they resulted in a reduced flow of monies to provinces receiving equalization payments. (7) The province was able to demonstrate that the credits would result in a redistribution of income, alleviating the burden of property and sales taxes on low-income earners in the province.[28]

Several factors have changed since tax credits were introduced. Ontario's present proposal to opt out does not carry the same weight as its 1969 proposal to set up its own PIT system. Ontario is no longer the only province with technical expertise and it is not the only province contemplating pulling out, as can be seen from the documentary material, provided by British Columbia and Alberta, in Appendix 2A. This reduces Ontario's leverage, since Ottawa knows that if Ontario is accommodated

28 Many of these points are based on Todres, 264-70. Regarding the last point, see, for example, 'Analysis of Income and Property Tax in Guelph', a study produced in 1972 by the Ministry of Treasury, Economics and Intergovernmental Affairs.

other provinces will try to follow suit, just as other provinces introduced credits after Ontario's success in 1972. Ontario is not now carrying out any extensive study and public relations program in an effort to promote a particular reform, as it did with respect to the property tax credit. Nor does the current threat to opt out follow a long tax-reform debate, as was the case a decade ago, although perhaps the furor that has followed the November 1981 budget gives the present period some resemblance to the era of tax reform. On the other hand, it would be logical to expect that it would now take less provincial effort to bring about change in the tax system than it did a decade ago, since the effort to implement the first provincial tax credit was a matter of breaking new ground.

ONTARIO FEDERALLY ADMINISTERED TAX CREDITS

Ontario's introduction in 1972 of a property tax credit designed to reduce the regressivity of the property tax opened the door to a proliferation of provincial tax credits, tax reductions, and surcharges. In Ontario itself, the efficiency of the credit system in enhancing progressivity and an increase in the sales tax from 5 to 7 per cent led to the introduction in 1973 of a sales tax credit.[29] It was felt that basing the sales tax credit on personal exemptions would correlate it to family circumstances and age, which would approximate the impact of the sales tax. The property tax credit was enriched in 1974, when the basic amount was doubled to the current level of $180. However, the reduction rate was increased from 1 to 2 per cent of taxable income. This meant greater progressivity, higher credits per recipient, and fewer recipients. A pensioners' tax credit (transformed into a grant in 1980), was added in December 1973 and made applicable for the 1973 taxation year. The introduction of this credit illustrates the flexibility then evident in the province's relationship with the federal government. The new credit did not comply with the universality criteria set out by federal finance minister John Turner, since it was not in respect of taxes actually paid and was not available to all residents of the province. However, the federal government relented and agreed to administer it.

29 See Ontario, 'Reduction of Tax Burdens Through Tax Credits: Ontario's Experience', Ministry of Treasury, Economics and Intergovernmental Affairs, Taxation and Fiscal Policy Branch, Ontario Tax Studies 14, 1977.

The property tax credit is by far the most important credit in terms of total value and dwarfs the political contribution credit introduced in 1975 to encourage political participation. The temporary home heating credit, added in 1981 to cushion the impact of rapid energy price increases, provides another example of federal accommodation. Though the proposal originated in the summer, after Revenue Canada's unofficial May deadline for changes to the tax form, Revenue Canada was able to accept and administer the proposal. This was due in part to the fact that a great deal of the preliminary work, up to and including the drafting of a draft claim form, had been done by Ontario beforehand. Most of the details were then hammered out in a one-day session between the two levels of government.[30] This episode also illustrates the negotiating process with respect to tax credits, which is generally very fluid and informal.

Like several other provinces, Ontario has instituted a tax reduction to complement the federal government's reduction. The provincial reductions have generally been instituted to help low-income groups and to avoid the political embarassment that would result if taxpayers were paying provincial but not federal tax.[31]

The current overriding criteria for acceptability of a tax credit proposal were first set out by the federal finance minister in December 1974. These guidelines stipulate that the provincial measure (1) must be reasonably easy to be administer, (2) must not alter the harmony of the tax system, and (3) must not jeopardize the efficient functioning of the Canadian economic system. These requirements were reiterated again last year by Finance Minister MacEachen in a submission to the parliamentary task force on federal-provincial fiscal arrangements. They serve as a guideline to provinces as to what will be acceptable and have probably stopped some proposals even before they were presented to Ottawa. However, they have been criticized as being unclear and open to inconsistent interpretation.[32]

30 Interview with Ontario officials, June 1982.

31 See Appendix 2A for a description of the tax credits and tax reductions and their history, prepared by the Ministry of Treasury and Economics and attached to a letter of October 18, 1982 from Leonard Roozen to David Conklin.

32 See letter from A.F. Collins, Deputy Provincial Treasurer, Government of Alberta, to T.J. Courchene, Chairman, Ontario Economic Council, September 24, 1982 in Appendix 2A. Certainly the recent British Columbia decision, discussed below, illustrates this.

REVENUE TRENDS

Analysis of revenue levels for the various credits offered by the provinces shows that their rate of growth has diminished. This may have arisen because of a shift in emphasis by many provinces from income redistribution to financial support through a variety of programs designed to stimulate the increasingly unfavourable economic climate of the past several years. It could also be a reflection of satisfaction with the programs as they are funded. Alternatively, and more plausibly, tightening budgets may have precluded expansion, given the slow growth of revenues and prevailing priorities such as the need for increased investment.

The rate of increase in Ontario's total credits has been declining since 1974, falling from an increase of 27.9 per cent in that year to 0.6 per cent in 1979. The flat rates of increase in the credits no doubt reflect the fact that they have not been enriched in Ontario since 1974 (see Table 2.1).

On a per capita basis, Ontario's credits have remained fairly constant, rising from $52.62 in 1977 to $53.55 in 1979 (see Table 2.2).

Perhaps the most interesting statistic reflecting the decline of the relative importance of tax credits in Ontario has been the ratio of tax credits to personal income tax collections in the province (see Table 2.3).

As seen by the following tables, tax credits assume varying levels of importance in the different provinces. Like Ontario, some of the other provinces have exhibited a trend towards a slowing growth rate in credits, an exception being Alberta. This undoubtedly reflects its buoyant economy and population growth during the years in question. Provincial revenues are also significantly affected by tax reductions and surcharges (not shown in the above tables). In Saskatchewan, for instance, these have involved greater amounts than tax credits.

Several factors can play a role in total credit levels. In Ontario, for instance, the bulk of tax credit payments are intended to relieve the regressivity of property taxes, so the amount of property taxes is important. In 1974, the province's 'Edmonton Commitment' pledged to match increases in funds transferred to municipalities to Ontario budget growth. This arrangement may have kept tax credits lower for the couple of years it was in effect, but it is doubtful that the impact was very significant. Probably most individuals' property taxes already exceeded the maximum credit. Growth in taxable income is also an important deter-

TABLE 2.1
Total provincial personal income tax credits in millions of dollars and percentage change from previous years

	New Brunswick	Ontario[a]	Manitoba	Saskatchewan	Alberta	British Columbia[a]
1972		180	24.2			
1973		302.9 68.2%	30 23.8%		7.8	
1974		387.5 27.9%	45.3 51.1%		15.9 104.0%	
1975		414.2 6.8%	67.8 49.7%		20.1 26.4%	15.9
1976		423.5 2.2%	82.3 21.4%	.005	25.8 28.7%	15.9 0.3%
1977		439.6 3.8%	90.9 10.5%	.04	26.8 3.7%	15.9 0.3%
1978		452.7 3.0%	95.1 4.5%	.03	31.1 15.9%	15.3 3.8%
1979		455.3 0.6%	99 4.1%	8.4	39.3 26.3%	22 43.4%
1980	.04	249 45.2%[b]	80.2 18.9%	8.5	45.9 16.8%	21.8 0.6%

a In 1981, the total credits in British Columbia will likely increase significantly with the introduction of the Personal Income Tax Credit and marginally in Ontario due to the introduction the Temporary Home Heating Credit.

b Pensioners removed from tax credit system.

SOURCE: "Final Determination of Payments Under the Tax Collection Agreements", Federal-Provincial Relations Division, Department of Finance, 1972-80.

TABLE 2.2
Tax credits per capita in dollars

	New Brunswick	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
1977		52.62	88.35	0.04	14.16	6.39
1978		53.60	92.04	0.03	15.94	6.06
1979		53.55	95.92	8.78	19.52	8.55
1980	0.06	29.07[a]	77.95	8.78	22.05	8.27

a Pensioners removed from tax credit system.
SOURCE: "Final Determination of Payments Under the Tax Collection Agreements", Federal-Provincial Relations Division, Department of Finance, 1972-80.

TABLE 2.3
Total tax credits disbursed as a percentage of gross provincial assessed PIT

	New Brunswick	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
1972		15.3	17.3			
1973		21.9	17.9		2.7	
1974		22.9	21.8		4.2	
1975		21.6	27.6		5.8	2.7
1976		19.9	30.0	0.02	6.3	2.3
1977[a]		14.7	26.8	0.01	4.3	1.6
1978		12.5	24.6	0.01	4.6	1.3
1979		12.6	25.6	2.3	4.5	1.8
1980	0.02	6.0[b]	18.4	2.0	4.6	1.5

a Increased gross PIT revenues due to the transfer of tax points to the provinces in 1977 resulted in smaller percentages for most provinces.

b Pensioners removed from tax credit system.

SOURCE: 'Final Determinations of Payments Under the Tax Collection Agreements', Federal-Provincial Relations Division, Department of Finance, 1972-80.

minant. If new tax measures retard growth in taxable income, tax credits and the number of filers will increase because the credits will be reduced more slowly due to lower taxable income. While 1974, for instance, saw the introduction of indexing, the $1,000 interest deduction, and the $1,000 RHOSP contribution deduction, analogous measures have not been doled out as generously in recent years due to increased budgetary constraints. Another major factor is population growth and increases of the labour force. The per capita credit figures quoted above would correct for population growth, although recently increases in the labour force have outstripped increases in the general population.[33] The flattened growth rate in credits is undoubtedly due for the most part to the fact that the property and sales tax credits have not been enriched since 1974. To the extent the sagging growth rate in credits reflects a tightening financial situation, it calls into question Ontario's ability to finance an extensive new round of investment tax credits.

THE TAX COLLECTION AGREEMENTS

Apart from the substantive issues limiting Ontario's flexibility in taxation policy, there are also procedural constraints set out in the Tax Collection Agreements between Canada and Ontario. Overall these restrictions do not appear to impose a great burden on the province.

As is often the case in an agreement between two parties, the Ontario government must give notice of any change in the rate of tax it wishes to apply. This helps facilitate source deductions. Section 17 of the Tax Collection Agreements provides that Ontario will make any alteration effective from January 1 and will make the change applicable in whole or half percentage points. The province must also notify the federal minister of revenue by October 15 if it wishes collections for the new rate to begin on January 1 or by April 15 if it opts for a July 1 start. Ontario officials do not feel that these notice provisions are unreasonable or unduly constraining, although they point out that Ontario does not change rates as frequently as some other provinces.[34]

Another area of potential concern to Ontario is the circumstance that the installment payments of provincial tax shares are based on estimates

33 See note 26 for a discussion of determinants of tax credit growth.
34 Interview with Ontario officials, June 1982.

prepared by the federal Finance Department. These estimates can be low, resulting in smaller installment payments. If the federal estimates turn out to be materially wrong, as was the case for Ontario in 1977, it makes budgeting difficult for the provinces.[35] British Columbia has argued that growing provinces such as itself are consistently underpaid, resulting in significant losses in forgone interest income.[36] However, a federal official argued in an interview that the provinces generally come out slightly ahead, possibly in part because installments are based on assessments rather than actual collections. This enhanced cash flow could offset any losses due to low installments. He also stated that once it is discovered that a province has been underpaid, the situation is immediately rectified, while the federal government will take up to three years to recoup an overpayment.[37] On the other hand, installments do not commence until March and are made four times a month until the following February. Thus, the estimates made by the Finance Department are fairly critical because there is a significant time lag before inaccuracies can be rectified.

The federal government charges a fee for administering the provincial tax credits. This fee is basically calculated on a sliding scale, declining from a maximum of 1 per cent of the credits as credits per capita increase. Ontario's credits are presently about $50 per capita, so it is assessed the maximum rate of 1 per cent. Whether Ontario could administer its program of tax credits for less than the administrative fee should possibly be examined. However, the Ontario officials interviewed do not think the fee is unreasonable.[38]

Any possible deficiency incurred through acceptance of the federal government's administrative fee should be considered in relation to the schedule of deductions from payments to Ontario that Ottawa makes for tax credits. Under the Tax Collection Agreements, the federal government deducts the tax credit in twenty-four equal installments from April to the end of September, which may slightly postdate the period over which the credits are actually disbursed to taxpayers. This would be to the advantage of the provinces. The credits can be of assistance to the federal gov-

35 Ibid.
36 See letter from L.I. Bell, Deputy Minister, Ministry of Finance, Province of British Columbia to T.J. Courchene, Chairman, Ontario Economic Council, September 27, 1982 in Appendix 2A.
37 Interview with a federal official, July 1982.
38 Interview with Ontario officials, June 1982.

ernment, though, in that it can if necessary use them to offset any federal tax owing.

FEDERALLY ADMINISTERED CREDITS IN OTHER PROVINCES

Table 2.4 provides a full list of provincial credits, surcharges, and reductions. Aside from political contribution tax credits in Nova Scotia and New Brunswick and a tax reduction introduced in 1982 in Nova Scotia, there are no reductions or tax credits in the Atlantic Provinces. This is perhaps a reflection of their constrained financial positions. Manitoba, Alberta, and British Columbia have also introduced political contribution credits. Most of the political contribution credits offered by other provinces are very similar to the one introduced by Ontario.

The four westernmost provinces have introduced royalty tax credits or rebates. This has been done in response to federal income tax provisions disallowing the deductibility of royalty payments. Unlike most of the other credits discussed here, political contribution and royalty tax credits are not refundable.

Manitoba has a property tax credit similar to Ontario's, while Alberta and British Columbia have renters' tax credits. In the latter two provinces, the credits are complemented by expenditure-side relief for homeowners. Interestingly, Saskatchewan has just replaced its mortgage interest credit with an expenditure-side mortgage interest subsidy. Though this program does not directly involve the federal government, Ottawa's approval was still needed to ensure that the subsidy would not be taxable.

Manitoba also has a cost of living credit, closely parallelled by British Columbia's personal income tax credit. Like Ontario's sales tax credit, these credits are based on personal exemptions. In Manitoba's case, family income is the criterion employed to reduce the credit.

Tax reductions and surcharges are also found in many provinces. Many of the reductions eliminate provincial tax where no federal tax is payable and also reduce provincial tax on a diminishing basis above that point.

With the exception of the political contribution credits designed to encourage political participation and the royalty tax rebate introduced to offset federal taxation policies, most of the provisions discussed above were implemented with the goal of redistributing income. They have en-

TABLE 2.4
Provincial PIT credits, surcharges, and reductions administered by the federal government

	New-foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia
Tax reduction			1982			1975	1977	1975	1975	1977
Tax surcharge							1976[a]	1976		1981
Property tax or renters' assistance credit						1972	1972		1973	1975
Cost of living or personal income tax credit							1974			1981
Political contribution credit			1981	1980		1975	1974		1977	1979
Temporary home heating credit						1981				
Royalty tax rebate or credit							1980	1974	1974	1976
Housing and employment development bond tax credit										1982

a Manitoba had a surcharge in 1976-78 and reinstituted one in 1982.

abled the provinces to affect the progressivity of the tax system for at least the highest and lowest strata of taxpayers, something that would not have been possible ten years ago. In addition, it is now possible for the provinces to implement limited policy options through the tax system.

The spate of provincial initiatives that has followed Ontario's lead illustrates the extent to which provinces will adopt measures advanced by other provinces. Given this precedent, the chances are good that any new Ontario measure would be imitated by other provinces, especially since Ontario has declined financially relative to many of the other provinces in the past decade.

OTHER MEASURES

In recent years, there has been a gradual shift in policy emphasis for the tax credit options preferred by provinces. Ontario's original tax credits were envisioned as efficient mechanisms for redistributing income, alleviating regressivity, and aiding people who did not earn enough to get caught by the tax system. Now the preeminent emphasis in Ontario is on devising incentives to encourage investment and thus create a more favourable economic environment.[39]

Other provinces have already made explicit efforts to introduce credits that would stimulate investment.[40] In 1978-79, British Columbia attempted to have the federal government administer a dividend tax credit and small business venture capital corporation tax credit. The dividend tax credit would have allowed an individual a credit from provincial tax payable for 5 per cent of dividends included in income from a public corporation with its head office and central management in British Columbia - a policy that federal officials saw as basically predatory vis-à-vis the other provinces.

The federal government, in a letter from Finance Minister Chretien, turned down the proposal, primarily on the grounds that it would interfere

39 This point is taken from the general tone of provincial budgets and legislative debates over the last couple of years.

40 Description of these proposals is taken from letters and documents at the federal Department of Finance. Extensive information on existing credits and past disallowed ones was also provided by Alberta and British Columbia. See the letters from A.F. Collins, Deputy Provincial Treasurer of Alberta, and L.I. Bell, Deputy Minister of Finance in British Columbia, which are reproduced in Appendix 2A.

with investment flows. This scenario was repeated after the Conservatives gained power in 1979. At one point Finance Minister Crosbie asked the province to consider extending the measure to include all corporations, whether located in British Columbia or not. The venture capital proposal also failed to get off the ground. From the point of view of trying to maintain the Canadian economic common market, with the efficiency gains that result from it, the federal stance was entirely laudable.

In the late 1970s, Saskatchewan announced two initiatives that it wanted the federal government to administer. The first of these, a rebate for provincial tax payable on capital gains from family farms and small businesses, was rejected partly on administrative grounds and partly because it would constitute a redefinition of the tax base, since it would exempt income specifically included at the federal level. The province eventually instituted its own rebate program.

The federal government proved somewhat more accommodating with respect to Saskatchewan's proposed mortgage interest tax credit. The negotiations opened with a Saskatchewan press release announcing the program and mentioning in passing that some administrative details remained to be worked out with the federal government. In negotiations conducted at a high level, the federal government initially refused to administer the credit, on the grounds that it would depart from a common definition of taxable income - one of the main criteria for federal acceptability. Changes were suggested by the federal government, and Saskatchewan modified its proposal accordingly.

In 1980, Alberta advanced a plan to increase rental housing by introducing a rental investment tax credit for MURB type buildings. The federal government objected to the scheme on the grounds that it would segment capital markets. Alberta's treasurer, Lou Hyndman, argued that the federal objection did not hold up, since the federal government itself discriminated between regions. He also pointed out that the proposed credit would be available only to those with Alberta tax payable; in other words, someone would have to be doing business in Alberta to benefit. He added that it was not Alberta's intention to distort national capital markets but merely to shift capital within the province to the housing sector. A threat to use the expenditure side was also made.

Finance Minister MacEachen responded to the last point by suggesting that possibly it was preferable to use the expenditure side. Alberta eventually accepted this advice, introducing subsidies for individuals through

its Department of Housing and Public Works Act. MacEachen stated that the federal government was very concerned about market fragmentation; moreover, in view of the proliferation of tax credits, it was time for the federal government to consider just how far it was prepared to go with them. Other federal officials have pointed out that the Finance Department has become worried about the increasing complexity and multiplicity of credits. In provinces with many tax credits, the taxpayer error rate on tax credit forms is high compared with the overall error rate in the Maritimes, where there are few tax credits.[42] Recently there has been a conscious federal effort to draw back and look at the situation from a wider perspective. Instead of evaluating each credit individually, the government has decided to look at how the proposed credit would effect the tax system in conjunction with existing credits. There can also be no doubt that investment incentive credits will be examined more critically by the federal government than those addressing social needs.[43]

Increased concern about economic performance has been one clear motive for measures such as those proposed by British Columbia. But these proposals may also have been a response to programs in Quebec, whose status outside of the Tax Collection Agreements gives it a great deal of flexibility. Quebec offers a credit for 25 per cent of the cost of shares up to $25 per share of certain corporations headquartered in Quebec with at least half of their salaried employees in Quebec. In addition, a stock savings plan allows deductions for the cost of certain shares purchased in a year up to $15,000 or 20 per cent of earned income, less amounts contributed to RRSPs and similar vehicles. These measures were introduced to promote investment in Quebec companies and to make the tax climate more hospitable for individuals in the province (see Chapter 5).

THE RECENT BRITISH COLUMBIA CREDIT

In September 1982, the federal government agreed to administer a housing and employment development bond tax credit for British Columbia - a significant reversal of the government's earlier position with respect to credits of this type. The program would allow the provincial government to issue $250 million in low interest bonds to benefit the housing sector.

42 Interview with a federal official, July 1982.
43 Interview with provincial officials, June 1982.

A rebate of provincial tax on the bonds will allow the province to raise money at a lower interest rate. For individuals, a flat-rate credit of 13.5 per cent of interest received has been proposed, the flat rate being relatively more helpful for middle- and low-income taxpayers.

In agreeing to administer a tax credit for provincial tax on the bonds, the federal government is adopting a much more flexible position than it assumed when it dismissed similar proposals put forward by Alberta and by British Columbia itself. There would appear to be little difference between the accepted British Columbia credit and the refused Alberta rental investment tax credit, which was also limited to Alberta tax payable and designed to ease the flow of funds into the housing market.

The British Columbia credit would appear to violate some of the federal criteria for administering tax credits outlined in 1974, such as the requirement that credits do not impair economic harmony. By encouraging British Columbians to buy these bonds - and thus keep their money in the province - the credit could impede the efficient allocation of funds by capital markets, although not to the same degree as the rejected B.C. proposal for a dividend credit for B.C. firms only. The credit could also be said to be a redefinition of taxable income, a rationale for disallowing proposals in the past.

Whether Ottawa's approval in this instance is the start of a new trend or an isolated occurrence, it will certainly be taken as an encouraging precedent by other provinces. Given the lack of concrete rules governing the administration of credits, it is difficult to predict future trends. Possibly the British Columbia credit's primary value is that it illustrates the nature of the negotiating process, with its rapid shifts that are often dependent on the personalities involved or on current political expediencies.

Until the announcement of the British Columbia credit, Ontario's chances of gaining approval for new credits did not appear promising. The province had not convincingly argued its case for any particular new credit and the federal government was worried about both the increasing administrative load caused by the rising number of credits and their effect in accentuating inter-provincial competition.

Even if the British Columbia lead can be utilized, Ontario must decide whether the gains to be achieved from a particular credit outweigh possible costs incurred if other provinces follow suit. Of course, if Ontario is already being victimized by other provinces' credits, it may not be able to

adopt a statesmanlike approach.

ALTERNATIVES TO CREDITS

Alternatives to credits also have to be considered. In achieving redistributive or incentive goals, expenditure programs may be just as effective as credits. Thus Alberta, with federal encouragement, abandoned its rental investment tax credit proposal in favour of an expenditure scheme. If a direct subsidy and a tax incentive are structured similarly, there should be little conceptual difference between them. The regulatory process provides another possible alternative to tax incentives as a way of promoting provincial goals.

Perhaps the primary advantage to using the tax system rather than expenditure is that the former gives less of an appearance of government involvement.[44] However, the price of saving appearances may be looser budgeting and less control over spending.[45] If the province is philosophically in favour of using the tax system, proposals to employ expenditure programs could help convince the federal government not to oppose credits on, for instance, capital imperfection grounds. If capital markets can be segmented just as easily by expenditure programs or the regulatory process, a tight federal hold on the tax system would appear rather futile.

Until the announcement of the British Columbia credit, Ontario's ability to have investment credits implemented did not look promising. With British Columbia's success, the outlook has improved, though it is difficult to predict the success of future credits. However, as was done in Alberta, policies can be implemented without using credits. This lessens the incentive to opt out of the tax system if certain credits are refused.

Table 2.5 shows some examples of recent provincial alternatives to credits.

TAX ON BASE

Another possible alternative to credits that Ontario could explore, especi-

44 See, for instance, 'The Road to Recovery: Restoring Investor Confidence', a paper given by Alberta premier Peter Lougheed at the August 1982 Premiers Conference, 10. Lougheed strongly advocates the use of the tax system as compared to direct government grants.

45 See Stanley Surrey, Pathways to Tax Reform, (Cambridge: Harvard University Press, 1973) 130.

TABLE 2.5
Examples of non-PIT provincial alternatives

	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Mortgage subsidy								1982	1982	
Capital gains refund							1982	1979		
MURB incentives									1980	
Venture capital investment incentives			1981		1976	1979				
Stock savings plan					1979					

ally if the British Columbia decision heralds a more relaxed federal approach, would be to have a provincially determined rate structure of the type often referred to as 'tax on base' as distinct from 'tax on tax'.[46] This would allow provinces to levy their tax as a percentage of taxable income rather than as a percentage of basic federal tax. Provinces would express their personal taxation as a schedule of rates applied to taxable income. The rate schedule could be the same as the federal government's or the provinces could use their own schedules. The tax base would remain common across the country and would be determined by the federal government. This approach was discussed by the members of the Tax Structure Committee in the late 1960s, and Manitoba has been the main proponent of such an arrangement in the more recent past.

While the provinces can now bend the progressivity of the tax system at the extremes of the income scale through credits, reductions, and surtaxes, 'tax on base' would allow a restructuring of the income tax rates at all income levels. Generally, the federal government's attitude toward this type of proposal has been negative, but there appears to be a certain amount of ambiguity in its position. Among the main federal concerns have been (1) the possibility of increased tax competition, (2) administrative difficulties if some provinces stick with basic federal tax while others switch to taxable income, and (3) that increased provincial flexibility could negate the effect of federal tax changes. Other arguments have been made in favour of the idea. Chief among these have been that a 'tax on base' structure would result in (1) more provincial flexibility, (2) elimination of some of the complexity caused by tax cuts and surcharges, and (3) more federal flexibility, in that the federal government would not have to worry about the impact of its moves on the provinces. In summary, although a movement to a 'tax on base' would certainly alter the progressivity of the tax system, it would not necessarily destroy its harmony, since individuals are slower than capital to relocate in search of lower tax rates. This reform could give Ontario substantially more input without triggering many of the concerns articulated by the federal government in the past.[47]

46 Analysis in this section comes from documents in the federal Finance Department and the Draft Discussion Paper, 'The Tax Collection Agreements 1962-1980', put out by the Federal-Provincial Relations Division, Department of Finance, July 28, 1980.

47 On the other hand, it would raise more acute problems of budget secrecy at the provincial level. Moreover, the need to meet the

Credits have assumed much of their importance to provinces because of the provinces' lack of input into the tax system. If the consultative process could be ameliorated, the importance of tax credits would be diminished, although the province might want to retain some credits for political reasons. That the desire of provinces to implement credits would probably not be completely eliminated by an improved consultative process was illustrated at the time of tax reform, when a fair amount of consultation occurred, only to be followed by a renewed Ontario demand for a property tax credit.

Several reasons have been advanced for the federal government's failure to adequately consult the provinces about tax changes. The practice of budget secrecy, whose original object was to prevent persons from arranging their affairs with prior knowledge of budget changes, has gradually become all-encompassing, and any leak is now regarded as a breach. Obviously this tradition has a severe chilling effect on government consultation and does not take into account the broad economic and social roles played by modern budgets.[48]

It has been suggested that another reason for lack of consultation is the difficulty of reaching a consensus with the provinces, which often have great difficulty in agreeing with each other. The provinces represent a broad range of fiscal policies and capacities as well as political and philosophical points of view. Because it would be fruitless to attempt to accommodate all of the competing positions, it is almost always easier, at least at the bureaucratic level, for Ottawa to act alone.[49] Another reason for the limitation on discussion stems from the belief that Parliament or legislatures have the right to hear of tax changes first.

Reform proposals which have surfaced since the furor over the November 1981 federal budget may reduce the limitations imposed by budget secrecy. A Canadian Tax Foundation Committee on the Budget

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notice requirements and to print and distribute the tax deduction tables for implementation at the beginning of taxation years would constrain the timing of provincial budgets.

48 See Department of Finance, 'The Budget Process: A Paper on Budget Secrecy and Proposals for Broader Consultation', April 1982. It is reproduced in Canadian Tax Journal, 30, 170.

49 Both the Ontario and the federal officials interviewed felt there was merit in this analysis.

Process submitted a report to the finance minister in March recommending a budget process that would offer more opportunity for provincial input into the tax structure.[50] The Committee recommended increased consultation with the provinces through a greater flow of information and pre-budget documents and hearings. It felt that the establishment of ad hoc consultative committees to augment the expertise at the Department of Finance would be useful. In addition, among other proposals, it felt that increased use of Green, White, or other less elaborate and time-consuming documents could facilitate public input into tax changes. A tax reform commission to provide a forum for the airing of views of the Department of Finance, provincial officials, and members of the public was also suggested. Many of these ideas were favourably received by the Finance Department in its recently tabled paper.[51]

If this reformist approach gathers momentum, it could lead to more provincial input into the tax base - a possibility recognized by the treasurer in his 1982 budget.[52]

Though the provinces are limited in their ability to forestall federal government policies, some constraints on federal tax initiatives do exist. To compensate for provincial income lost due to federal tax expenditures (i.e., concessions) which erode the tax base, the federal government has instituted a revenue guarantee. Under the present terms of this guarantee, the federal government will compensate for provincial revenue lost as a result of changes, excluding indexation, that exceed 1 per cent of the basic federal tax. However, the guarantee for losses over 1 per cent is only applicable for one year after the change. A major alteration in the federal tax base, such as mortgage interest deductibility, could still wreak havoc on provincial financial planning.[53] Therefore, a constraint does face the federal government, but it is a reasonably mild one. Although the present guarantee was introduced in 1977, it has so far not been

50 See Committee on the Budget Process, 'On Opening Up the Budget Process: A Report to the Honourable Allan J. MacEachen, Minister of Finance, from a Committee Formed Under the Auspices of the Canadian Tax Foundation' 1982, Canadian Tax Journal, 30, 161.

51 See note 43.

52 See the 1982 Ontario Budget, 13. The treasurer mentions that he hopes the federal paper suggests a new awareness of the need for consultation by the national government.

53 It would be recalled that the Crosbie budget of December 1979 avoided this problem by proposing a federal tax credit for mortgage interest and property taxes payable.

invoked.

Federal manipulation of the tax base is also constrained to some extent by the effect of tax changes on Established Program Financing, which is made up of tax transfers and cash. A reduction in the tax base will result in a corresponding reduction in tax transfers. Under the EPF, the federal government must make up part of this reduction in cash. Thus the federal government's EPF cash responsibilities increase even as its tax revenues are reduced.[54]

While the above-mentioned factors do serve to constrain federal tax initiatives, their focus is on revenue. A federal tax alteration which replaced one program with another without affecting revenues would not bring these constraints into play, yet such an alteration could have profound policy implications and could greatly aggravate the provinces.

Improved consultation would appear to be the paramount goal of any provincial government. The position of the British Columbia government most likely mirrors that of most provinces:

> In an ideal world, the tax base should be jointly defined, the definition of the tax base should be as simple as possible and the system should allow either government to add their own provisions without impacting upon the tax base of the other level of government. Such a 'harmonized' tax environment, would, in our view be operationally feasible and sensitive to the policy objectives of the governments.[55]

The Alberta government has expressed a similar view, arguing that a consultative role for the provinces is needed to 'ensure that proposed federal tax measures will not have unintended adverse effects on regional undertakings and that as far as possible, federal and provincial tax policies are reinforcing.'[56] Given the recent concern over the budgetary process, it may be fruitful to lobby vigorously in support of the new consultation proposals, emphasizing the harm lack of consultation inflicts on the province and on federal-provincial relations.

Barring achievement of that objective, greater federal flexibility in allowing credits should be advocated. Repeated rejections could cause provinces to leave the Tax Collection Agreements, heightening the chances of increased tax competition in Canada. Possibly federal acceptance of the British Columbia proposal is the first step in an effort to forestall such a development. Ontario can also achieve its policy goals through mechanisms

54 Interview with a federal official, July 1982.
55 Quoted from a letter of L.I. Bell to T.J. Courchene. See note 36.
56 See footnote 44.

other than credits, tax on base, expenditure programs, and the regulatory process are prime examples of such alternatives. Even if the province fails to gain greater consultation or more federally administered credits, these options may still be preferable to a separate PIT.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. The Government of Ontario, like the governments of other provinces (Quebec has not been directly involved since 1954), apparently has virtually no influence on the decisions of the federal tax authorities with respect to the determination of the federal personal income tax base or rate structure. Except for a brief period of tax reform in the late 1960s and early 1970s, this situation has prevailed since the Wartime Tax Agreements of the early 1940s.

   Moreover, the federal government has made a host of changes that have unilaterally, preemptively, and without prior notice adversely affected Ontario PIT revenue and had what the Ontario tax authorities have perceived to be perverse economic or social consequences for Ontario residents. Obviously, a separate Ontario PIT would obviate this set of problems.

2 The Province of Ontario was able to persuade the federal tax authorities to administer a personal income tax credit on behalf of the province in 1972. Since that time, other provinces have followed suit and Ontario has provided additional types of tax credits and changed their magnitudes, as have the other provinces. Aside from the province's freedom to alter the provincial rate of tax on 'federal basic tax', the PIT tax credit structure has to all intents and purposes provided the only provincial avenue for policy implementation through the joint PIT system.

3. However, even this degree of provincial policy freedom has been circumscribed. The federal government has adopted and enforced a set of rules concerning the types of provincial modifications under the generic heading of provincial PIT credits that it is prepared to administer on behalf of the provinces under the Tax Collection Agreements. Of particular importance have been the rule that precludes a province from deviating from the federal tax base and the rule that a province

may not adopt credits with respect to investment income that discriminates with respect to the jurisdiction location of the investment.

The restriction against provinces varying the federal PIT base as it applies to their own provincial PIT systems may be justifiable on administrative grounds (although this is not necessarily a critical consideration). However, the restriction on jurisdictionally discriminatory provincial credit provisions, while almost certainly laudable in terms of intent, has little to justify it in terms of effectiveness. It is obviously a second or worse best for the federal tax authorities to stand so firmly against provincial attempts to pursue jurisdictional discrimination through PIT, when federal intransigence in this respect simply results in other instruments being used to the same (or greater) effect by provinces willing to sacrifice national well-being for province-building (although the new constitution as interpreted may prevent at least some of these attempts to erect interprovincial barriers).

4. There has been a great proliferation of credits in many provinces in the last ten years. However, in Ontario, as in some other provinces, the credits' rate of growth in forgone revenue terms has slowed. This presumably reflects in large part the slow growth of government revenues in recent years and the constraints imposed by rising provincial deficits.

5. In the past few years, both Alberta and British Columbia have proposed credits that have been rejected by the federal authorities. The prevailing federal restrictions on provincial PIT credit policy obviously would have no direct force or effect if Ontario were to adopt its own PIT system. However, the recent federal acceptance of the British Columbia proposal that provincial PIT credits be administered by the federal government with respect to the interest on a certain type of B.C. bond could indicate that greater flexibility will be forthcoming within the existing system, since federal acceptance of the B.C. proposal seems to run directly counter to the federal rule concerning provincial jurisdictionally discriminatory investment income PIT credits, although the B.C. bond interest credit is probably less perverse than the earlier proposed dividend credit for B.C. firms only.

6. Ontario, like the other provinces, can and does employ many alternative policy instruments, such as expenditure programs and regulation, to achieve its objectives. To the extent that these alternatives are at least as cost effective as a separate PIT would be - and the general presumption is that they are - the need to establish a separate PIT to achieve provincial goals is reduced, at least from a strictly economic efficiency perspective.

7. If the provinces were to forswear 'beggar thy neighbour' PIT credits that discriminated against out-of-province investment by residents or in-province investment by non-residents (should that not be desired), there would seem to be no reason for the federal tax authorities to deny the provinces the right to impose investment or investment income tax credits.

8. The federal revenue budget process is grievously flawed.[57] And the results of that process, the existing federal tax system in general and the PIT system in particular, bear testimony, in part, to the weaknesses in the federal process. There is no doubt that many of the weaknesses in the existing federal PIT cannot be blamed on the process per se but are a direct result of the federal authorities seeking to reconcile, year after year (or more often!), a multitude of conflicting demands and interests while striving simultaneously to maintain the fundamental integrity of 'the system'. There is no doubt that giving provincial tax authorities an equal voice would make the process more difficult and more protracted. Nor is there any doubt that provinces would often express conflicting views that would in some way have to be resolved - if only to be rejected - in order to proceed with the governing of the country.

However, this having been said, it is primarily because revenue budgets are of necessity so fraught with endless conflict - conflicts between interests, conflicts between ideologies, conflicts between theories, facts, and analyses, and conflicts between strategies - that the legitimacy of the process takes on such importance: we accept the decisions of governments that we personally may not like because

57 See D.G. Hartle, The Federal Revenue Budget Process, CTF, 1982, for a summary of the criticisms and proposals from a variety of sources.

they were fairly and democratically elected, and court decisions that go against us because the proceedings were open, the rules of evidence were observed, and the 'facts' were determined by an unbiased jury. 'Justice is what the courts decide' is a reasonable aphorism when the courts are perceived to be legitimate. This is also true of the decisions that determine the structure and rates of the PIT.

As was pointed out in the Introduction, Canada now has a remarkable degree of tax harmony by world standards. Unfortunately, the record with respect to non-tax provincial discrimination against interjurisdictional flows of capital, labour, and goods and services is far from unblemished, and the situation seems to be deteriorating rapidly.[58] The federal authorities are presumably aware that their intransigence in the face of certain provincial initiatives with respect to PIT may have simply induced the provinces to introduce the same discriminatory policies through other means. However, there is little doubt that some provinces would have adopted 'beggar thy neighbour' policies using other means whatever the federal government had decided about predatory provincial PIT changes. No doubt in the past the federal authorities could reasonably argue that they adopted their second best stance because they were powerless under the Constitution to prevent provinces from adopting many interprovincially predatory practices. The Constitution has, of course, been amended to include, inter alia, provisions that would prohibit interprovincial barriers to the free movement of people and goods. To an unknown extent, these provisions of the Canada Act, 1981, as interpreted by the courts, may eventually strengthen the hand of the federal government (or other parties) in resisting at least some attempts by provinces to create interprovincial 'beggar thy neighbour' economic barriers. But the qualifying word 'eventually' is used advisedly. Constitutional interpretation and enforcement is almost always a slow, evolutionary process. What seems to be needed in the near and intermediate terms is a recognition by individual provinces that predatory policies, because they are likely to be met with retaliatory measures by other provinces, are not only unlikely to

58 See J.R.S. Prichard, M.J. Trebilcock, T.J. Courchene, and J. Whalley, eds. Federalism and the Canadian Economic Union (Toronto: Ontario Economic Council, forthcoming).

be effective for a sustained period but are likely to result in net losses to all of the players. This result would be certain if Canada were to lose the resource allocation efficiencies associated with a common market. The federal authorities, for their part, must recognize that the time has come to accept the provinces as continuing and legitimate partners in the policy decision-making process, particularly with respect to the federal-provincial PIT system. In exchange for according the provinces a substantial role in that process, the federal government may be able to obtain from the provinces assurances that they will refrain from 'beggar thy neighbour' policies implemented by means of any policy instrument.

For while there is little evidence in this report that would support the economic case for a separate Ontario PIT, it is also noted, in the Introduction, that some nations (e.g., Switzerland and the U.S.) are doing well economically vis-à-vis Canada, yet have less tax harmony. Changes in PIT would not be likely to greatly affect Canadian or Ontario growth rates. Although this argues against Ontario having its own PIT for the better realization of Ontario's economic objectives, it also suggests that an independent Ontario PIT policy would not be likely to do massive damage - at least over the short or intermediate term - assuming that interjurisdictional retaliation did not intensify the estimated costs.

Appendix 2A
Documents

TREASURY

Office of
the Deputy Provincial Treasurer

403/427-4106
Telex 037-2137
434 Terrace Building
9515 - 107 Street
Edmonton, Alberta, Canada
T5K 2C3

24-Sep-82

FE-4735-3

Mr. T. J. Courchene
Chairman
Ontario Economic Council
81 Wellesley Street East
TORONTO, Ontario
M4Y 1H6

Dear Mr. Courchene:

Re: Your letter of 29-Jul-82

The federal government currently administers five special measures in the Alberta individual income tax: Renter Assistance Credit, Royalty Tax Rebate, Royalty Tax Credit, Selective Reduction, and Political Contribution Credit. In 1980, they refused to administer a sixth measure: our proposed Rental Investment Incentive Credit.

Attached is a paper with responses to your questions on Alberta tax measures. Although several of these measures apply to both the corporate and personal income taxes, our comments will be restricted to the personal income tax. The paper first answers your questions as to date of introduction, rationale, form, and modifications for the five currently existing measures. Details of our rejected Rental Investment Incentive Credit are outlined. We discuss our impressions of the negotiation process in the setting of tax policy in this country, particularly in regard to the Personal Income Tax. Finally, annexed are a table of cost estimates for these measures, some tax forms which may be of interest, and a paper released by Premier Lougheed at the Aug-82 Premiers' Conference which discusses, among other things, the need for greater federal-provincial consultation on tax matters.

/2

We are quite happy to assist you in your study and are looking forward to seeing your report.

Yours sincerely,

A. F. Collins

/kk
Att.

ALBERTA TREASURY
Tax Policy
22-Nov-82

RENTER ASSISTANCE CREDIT

1. Date Introduced:

The Renter Assistance Credit was introduced into the Alberta personal income tax system in the 2-Mar-73 budget for the 1973 taxation year.

2. Basic Rationale:

The credit was designed to maintain similar treatment of renters and home owners with respect to property taxes. Under the Property Tax Reduction Act, the Provincial Education Foundation Levy portion of property tax was removed from owner-occupied homes and paid by the provincial government. Renters, however, had to pay the levy through higher rents, since it is still applied to apartment buildings. As it is difficult to directly attribute property tax to individual rental units, the credit calculated a surrogate amount initially based on rent paid.

When the Education Foundation Levy was removed in 1974 from rental properties, the rationale for the Renter Assistance Credit was altered. The credit was continued and expanded considerably on the grounds that landlords might not pass on the tax reduction and also as a measure the government felt it could take to help offset increasing rents and a rising cost of living.

3. Form Taken:

The credit has always been refundable. Only one credit has been available per household and it must be claimed by the spouse with the higher taxable income.

Only rental property subject to municipal tax is eligible.

The programme is aimed at Alberta residents (as defined under the federal tax rules) who rented accomodation for at least 120 days during the calendar year. Those over 65 are excluded because Alberta Municipal Affairs runs a direct grant programme for them. Children under 16 are excluded as are people under 21 claimed as a dependant by another taxpayer.

4. Modifications:

Eligibility requirements for the credit have been modified somewhat, but are still basically what they were in 1973. Rules involving marriage breakdown allowing both spouses to claim have been altered somewhat. Rules on eligible properties have been changed several times - most recently in 1981 to include land rented for mobile homes - to increase the number of such properties.

There have been three different formulae for calculating the credit: the original 1973 formula, and changes introduced in 1974 and in 1979.

The 1973 formula had no minimum and a maximum of $100. Tax filers could claim the lesser of 5% of their total rental payments or a calculated sum ($100 + 2% of total rental payments - 1% of taxable income).

In 1974 a minimum of $50 was added for most cases and the maximum was raised to $200. The calculation of the value of the credit was based on the amount of rent paid:

1. If total rental payments in Alberta were under $250 for the year, the credit was equal to 20% of rent paid (with no minimum).

2. If total rental payments in Alberta were between $250 and $500, the credit equalled 20% of rent minus 0.5% of taxable income (with a minimum credit of $50).

3. If total rental payments in Alberta were $500 or more, then the value of the credit was $90 plus 2% of rent (for a maximum calculated value of $200), from which was then subtracted 0.5% of taxable income (with a minimum total credit of $50).

The 1979 changes to the formula made the $50 minimum applicable to everyone and increased the maximum to $250. The credit now equals $80 plus 5% of rent (to a maximum sum of $250), from which is subtracted 1% of taxable income.

ALBERTA TREASURY
Tax Policy
22-Nov-82

ROYALTY TAX REBATE

1. Date Introduced:

The Royalty Tax Rebate was introduced as part of the Alberta Petroleum Exploration Programme in 1975, and applied retroactively to 6-May-74.

2. Basic Rationale:

To refund Alberta income tax on the non-deductible portion of Crown royalties.

In Alberta's view, royalties are a legitimate business expense and should, therefore, be subtracted from gross income in order to calculate taxable income. However, the federal government, which sets the rules for the calculation of taxable income, has disallowed the deduction of Crown royalties and other related payments to the Crown, and requires these amounts to be included in income. Thus, for people paying Crown royalties, taxable income calculated under federal rules is higher than it would be if royalties were fully deductible.

3. Form Taken:

A rebate of the lesser of Alberta tax paid and the Alberta income tax on the amount by which non-deductible payments to a Crown exceed the resource allowance.

4. Modifications:

The rebate calculation has been amended to match changes in the Alberta tax rate (as applied to basic federal tax). In 1974, this percentage was 36%, in 1975 and 1976 it was 26%, and since 1977 it has been 38.5%.

Since the 1-Sep-81 Canada-Alberta Energy Agreement, the rebate has been modified to exclude the incremental Crown royalty portion of incremental old oil revenue as determined under the Incremental Oil Revenue Tax. Since incremental old oil revenue is not subject to income tax, there is no need to provide a rebate of income tax on the Crown royalty component of that incremental revenue. The Incremental Oil Revenue Tax also does not tax incremental Crown royalties. Thus, this change simply maintains the original intent of the rebate.

The current formula is as on Revenue Canada form T79 (attached).

ALBERTA TREASURY
Tax Policy
22-Nov-82

SELECTIVE TAX REDUCTION

1. Date Introduced:

The Alberta Selective Tax Reduction was introduced for the 1975 taxation year.

2. Basic Rationale:

The original objective of the selective tax reduction was to ensure that Albertans paid no provincial personal income tax when no federal tax was payable. As of 1979 the objective was modified to that of lessening the tax burden on lower-income taxpayers.

The Alberta selective reduction was adopted after the implementation in 1973 of a general tax reduction by the federal government. The federal reduction applied only to federal income tax payable, and it was calculated after the calculation of basic federal tax. Since the Alberta personal income tax is expressed as a percentage of basic federal tax, Alberta, like other provinces, was in the position of charging provincial tax in several cases where no federal tax was charged.

3. Form Taken:

The reduction has always consisted of reducing the tax payable of a selected group, namely, those with small amounts of tax to pay.

4 Modifications:

There have been four separate formulae used to calculate the Alberta Selective Tax Reduction. They were as follows:

Note: The expression "tax otherwise payable" (used below) means the tax payable less any royalty tax rebate claimed by an individual for the taxation year.

(a) for the 1975 and 1976 taxation years, the lesser of
  i) the tax payable for the taxation year, and
  ii) $80 minus 2% of the individual's taxable income for that year;

(b) for the 1977 taxation year, the lesser of
  i) the tax payable for the taxation year, and
  ii) the amount, if any, by which the aggregate of

    (A) $116, and
    (B) the lesser of

      (I) $300, and
      (II) the product of $50 and the number of children

under 18 years of age resident in Canada and claimed by the taxpayer as dependants with respect to that taxation year

exceeds 1/2 of the tax payable for the taxation year;

(c) for the 1978 taxation year, the lesser of
  i) the tax otherwise payable for the taxation year, and
  ii) the amount, if any, by which the aggregate of

    (A) $231, and
    (B) the lesser of

      (I) $300, and
      (II) the product of $50 and the number of children under 18 years of age resident in Canada and claimed by the taxpayer as dependants with respect to that taxation year

    exceeds the tax otherwise payable for the taxation year; and

(d) for the 1979 and subsequent taxation years, the lesser of
  i) the tax otherwise payable for the taxation year, and
  ii) the amount, if any, by which $300 exceeds 1/2 of the tax otherwise payable for the taxation year.

The first formula meant that for the 1975 taxation year, where no federal tax was owing, no provincial tax was charged. It meant, furthermore, that the tax-back rate for the reduction was not excessive, nor were there high marginal rates due to the formula.

In 1976, however, some individuals paid more provincial tax than federal tax, including cases where there was no federal tax charged but some (usually very small amounts) of provincial tax. The reason for this problem was the fixed nature of the Alberta formula and the effect of federal indexing. The formula for the Alberta Selective Reduction was thus changed for 1977.

Besides changing its formula to account for the effects of indexing on the selective reduction, Alberta also had to make changes due to a new federal measure (the child credit) if it was to maintain the original purpose of the reduction: namely, to ensure that no provincial tax be charged if no federal tax was charged. Into the calculation of the reduction, therefore, was added an amount to take account of the number of dependent children the taxpayer had.

In 1978, the Alberta formula was once again changed following the change in the federal general tax reduction.

In 1979, the formula was changed again. Alberta no longer based the reduction on the federal reduction but determined on its own an appropriate formula for reducing Alberta tax on low income individuals.

ALBERTA TREASURY
Tax Policy
22-Nov-82

ROYALTY TAX CREDIT

1. Date Introduced:

The Royalty Tax Credit was introduced as part of the Alberta Petroleum Exploration Programme in 1975, and applied retroactively to 6-May-74.

2. Basic Rationale:

Originally, the purpose of the Credit was to compensate the small explorer taxpayer for the extra federal tax charged due to the federal decision not to allow the deduction of Crown royalty payments as expenses incurred in order to earn income.

When the federal government introduced the resource allowance as a partial recognition of Crown royalty expense, Alberta agreed that the Royalty Tax Credit would be continued, although with a slightly different rationale. It now became a form of stimulus to the petroleum industry with emphasis placed on small explorers/producers.

Currently, the Royalty Tax Credit is a selective royalty reduction delivered through the tax system. It provides financial resources to the small segment of the industry which they may use for exploration and development activity.

3. Form Taken:

Refundable tax credit. Only oil and gas royalties paid to Alberta are eligible.

4. Modifications:

The value of the tax credit has been equal to:

1974:	30% of Alberta royalty income, $1 million credit limit
1975:	28% of Alberta royalty income, $1 million credit limit
1976 to 31-Aug-81:	25% of Alberta royalty income, $1 million credit limit
as of 1-Sep-81:	75% of Alberta royalty income, $4 million credit limit
as of 31-Dec-83:	the Credit will be 50% of Alberta royalty income, $2 million credit limit

ALBERTA TREASURY
Tax Policy
22-Nov-82

POLITICAL CONTRIBUTION TAX CREDIT

1. Date Introduced:

The Alberta Political Contribution Tax Credit was introduced 22-Mar-77 applicable to the 1978 and subsequent taxation years.

2. Basic Rationale:

The Alberta credit duplicated the federal credit but applied only to Alberta political parties whereas the federal credit applied only to officially registered federal parties.

3. Form Taken:

The credit is a non-refundable tax credit.

4. Modifications:

The initial formula, was:

the lesser of
75% of first $100 contributed, plus
50% of next $450 contributed, plus
33 1/3% of contributions over $550
to a limit of $500
and
Alberta tax payable.

On 26-Apr-82, a change to the Alberta Political Contribution Tax Credit was announced by the Provincial Treasurer in the Legislature. The new formula increased contribution levels by 50%, so that the value of the credit for 1982 and subsequent taxation years is now:

the lesser of
75% of first $150 contributed, plus
50% of next $675 contributed, plus
33 1/3% of contributions exceeding $825
to a limit of $750
and
Alberta tax payable.

ALBERTA TREASURY
Tax Policy
22-Nov-82

RENTAL INVESTMENT TAX CREDIT

1. Date Introduced:

The Rental Investment Tax Credit was introduced in the Legislature 1-May-80 as Section 6 of Bill 42. However, due to Ottawa's refusal to administer the credit, this section was struck out entirely 12-May-80 and thus is not part of the Alberta Income Tax Amendment Act, 1980.

A similar programme (except that it was outside of the personal income tax) was then introduced under the Department of Housing and Public Works Act.

2. Basic Rationale:

The aim of the credit was to stimulate multiple unit rental housing in Alberta, since such production had dropped dramatically due to rising interest rates, the federal government permitting the special CCAs for MURBs to expire as of 31-Dec-79, and the cancellation of the federal Assisted Rental Programme. It was felt that with particularly low vacancy rates in Alberta and a rapidly increasing population, more new rental units were needed than were being provided.

3. Form Taken:

A tax credit of 5% of the capital cost (depreciable) of a qualifying Alberta building, excluding land, to a maximum of $3,000 per residential unit contained in the building. The amount of the credit was not to exceed Alberta income tax payable, with any excess to be carried forward.

The tax rebate programme (administered by Alberta Housing and Public Works) took the same form as the credit proposal, including being limited in value to Alberta tax payable.

4. Reasons Given for Federal Rejection:

Alberta was surprised at the federal refusal to administer the credit. In the province's first contacts with federal officials no problems were mentioned.

The federal government never completely explained the reason for its rejection. Federal Finance Minister MacEachen, however, did allude to some matters in letters to Provincial Treasurer Lou Hyndman.

In his response to Alberta's proposal the Hon. Mr. MacEachen quoted from former Finance Minister John Turner, saying that the federal-provincial tax collection system's aims were in part:

1. to provide provinces with "as much freedom and flexibility to pursue their own interest as was consistent with the preservation of an essential uniformity in the national tax system"

and

2. "to preserve the degree of uniformity in the national tax system needed to avoid distortions that could undermine the efficient operation of the Canadian economy."

Hon. Mr. MacEachen stated that proposals from other provinces as well as Alberta's own proposed credit made him concerned about potential segmentation of the national capital market. He was concerned that accepting the various proposed credits could lead to irrevocable damage to federal-provincial tax harmonization.

The federal government was quite specific in stating that their opposition to administering Alberta's credit was totally unrelated to the policy Alberta hoped to implement through the credit (i.e., the policy of encouraging MURB construction). They even recommended Alberta go ahead and implement this policy through a provincial direct expenditure programme.

It is unclear why the "Alberta-MURB" programme was an unacceptable segmentation of the national capital market when delivered through the tax system, but is quite acceptable when delivered as a direct provincial expenditure.

ALBERTA TREASURY
Tax Policy
22-Nov-82

NEGOTIATING PROCESS

There are two areas of negotiation with the federal government on personal income tax which could occur: negotiation on the tax base and rates used to arrive at basic federal tax which in turn determines provincial tax, and negotiation of the administration of provincial tax measures.

A negotiation process on federal changes to the base or rates, or on federal special measures (credits, reductions, etc.) is non-existent. Alberta is not consulted, nor even informed, when the federal government is considering even major tax changes (such as in the 12-Nov-81 budget). The federal green paper which followed the Nov-81 budget, recommending a more open approach to the preparation of tax changes, did not discuss the possibility of consulting with provincial governments prior to making changes to basic federal tax.

The process involved in federal decisions to accept or reject proposed special provincial measures is informal if it exists at all. The guidelines for programmes they will administer, set out by the federal government in the paper "Fiscal Arrangements in the Eighties - Proposals of the Government of Canada", have yet to be discussed by finance ministers. The guidelines are unclear and therefore open to inconsistent interpretation.

In its Aug-82 paper "The Road to Recovery: Restoring Investor Confidence" the government of Alberta urged greater consultation on tax matters between the federal and provincial governments to avoid confusing reversals of policy, prevent adverse affects on regional undertakings and ensure that federal and provincial tax policies are reinforcing.

Province of
British Columbia

Ministry of
Finance

Parliament Buildings
Victoria
British Columbia
V8V 1X4

OFFICE OF THE
DEPUTY MINISTER

September 27, 1982

Mr. T.J. Courchene
Chairman
Ontario Economic Council
81 Wellesley Street East
Toronto, Ontario
M4Y 1H6

Dear Mr. Courchene:

In reply to your letter of July 29th, I am enclosing a paper prepared by the Ministry of Finance which describes all British Columbia personal income tax credits, reductions and surtaxes administered by the federal government under the Tax Collection Agreements. This paper addresses the first six points itemized in your letter. Please note that while the paper indicates a decision from the federal government is still pending on British Columbia's proposal for a Housing and Employment Development Bond Tax Credit we have recently been informed that they will indeed administer this credit if mutually satisfactory administrative arrangements can be agreed to. If you require any further information or clarification of the provisions contained in the attachments please feel free to contact Mr. Philip Halkett (604-387-5148) Director, Taxation and Intergovernmental Relations Branch, Treasury Board Staff, Ministry of Finance.

With respect to your seventh point, concerning British Columbia's satisfaction with the current Tax Collection Agreements, the Honourable Hugh Curtis, Minister of Finance, has on several occassions expressed the Government's view that the provinces are not being well served.

First, although the personal and corporation income taxes are areas of shared jurisdiction and responsibility between the two levels of government, the current collection arrangements allow the federal government to unilaterally change the tax bases without first consulting the participating provinces. However, should the provinces wish to implement special provincial features, federal approval must be obtained and measures have often been rejected. British Columbia's fear is that this unbalanced arrangement may eventually cause more provinces to leave the Agreements, opening the door to increased tax competition in Canada.

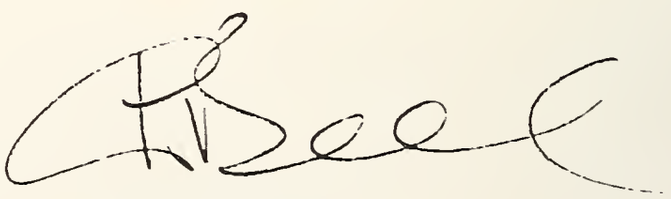
In an ideal world, the tax base should be jointly defined, the definition of the tax base should be as simple as possible and the system should allow either government to add their own provisions without impacting upon the tax base of the other level of government. Such a "harmonized" tax environment, would, in our view be operationally feasible and sensitive to the policy objectives of the governments. Enclosed are notes on this issue, delivered by the Honourable Hugh Curtis at a meeting of federal and provincial finance ministers in Halifax on November 23, 1981.

A second problem with the current arrangements is the method used to calculate tax collection remittances to the provinces. Under the current arrangements, growing provinces such as British Columbia are consistently being under paid each year with resulting large adjustment payments in subsequent years. This consistent under payment of actual tax collections represents a very real expense to British Columbia in the form of foregone interest income.

Finally, British Columbia is concerned that provincial allocations of taxable income and the calculation of tax credits specific to British Columbia have a low priority in audits conducted by federal officials. Under the current Agreements provincial auditors are excluded from the audit function. British Columbia believes that the Agreements must be amended to allow provincial auditors to have direct access to tax returns when a federal audit is being conducted. In response to our continued representation on these issues, Ottawa has undertaken additional auditing of some specific firms, however our basic request that provincial auditors be able to conduct field audits on the issues of allocation and calculation of credits has not been accepted.

I hope that the enclosed material and my comments will be of some assistance to you in completing your report.

Yours truly,



L.I. Bell
Deputy Minister

Enclosure

Tax Harmonization and the Tax Collection Agreements

Statement by
The Honourable Hugh A. Curtis
Minister of Finance
Province of British Columbia
Tabled at the Meeting of
Ministers of Finance and
Provincial Treasurers

November 23, 1981
Halifax, Nova Scotia

Tax Harmonization and the Tax Collection Agreements

I should like to conclude my comments on fiscal arrangements with some observations on the important issue of tax harmonization. Our prior discussions on this subject have been clouded by differences in terminology and priorities. Let me begin therefore by restating British Columbia's approach to the matter. The goals of tax harmonization are straightforward:

- no double taxation of people or corporations;
- no gaps in the tax system which allow tax avoidance;
- administrative simplicity and feasibility;
- assurances that the unilateral actions of one government do not adversely affect other governments; and,
- avoidance of excessive differences in effective tax burdens between jurisdictions.

Harmonization can be achieved and safeguarded only by agreement of all governments to adhere to the principles I have outlined. For this reason I have stressed the importance of a tax "code of conduct" as a means of ensuring a harmonized system. The Tax Collection Agreements, important though they are, are simply an efficient administrative device for implementing a harmonized income tax system.

The first step in achieving harmonization, where a tax field is occupied by both the federal and provincial governments, is to determine a common tax base. This should be done by agreement among governments, not through unilateral federal action enforced through a collection agreement.

In the recent budget we have seen, once again, the results of unilateral action. While we can agree with the elimination of some tax expenditures which merely reduce taxes for a relatively small number of high-income people, we do not agree with the elimination of certain investment incentives. I am referring to the proposed elimination in the budget of those incentives for the construction of rental housing which I mentioned earlier.

The Government of British Columbia is strongly opposed to ending investment incentives for rental housing. However, we have no alternative but to match the federal action, because the collection agreements require that we maintain the British Columbia Income Tax Act in conformity with the federal Income Tax Act. Therefore, not only are we unable to influence the federal action, we are forced to carry out the role of unwilling accomplices through the automatic link between the federal and provincial Acts.

In the background paper on fiscal arrangements released with the federal budget, the federal government states its intention of administering the Tax Collection Agreements in conformity with guidelines regarding.... "uniformity of income tax bases". We have no objection to maintaining uniformity of tax bases, but we believe the tax base should be established mutually between the provinces and the federal government, not unilaterally.

We propose that both the federal and provincial governments should agree on the components of the common tax base and that other tax programs of either level of government be added in the form of tax credits. This would ensure that unilateral measure would not impose costs on the other level of government. This proposed change would help to give some flexibility to the tax system and yet retain uniformity in the tax base. Such a change would help alleviate some of our concerns with the Tax Collection Agreements, but other changes are also necessary.

First, British Columbia is not satisfied that the present method used by the federal government to estimate provincial tax entitlements for purposes of interim payments is fair and equitable. Interim payments during a year to those provinces which experience faster than average growth rates in personal and corporate incomes are usually less than their actual entitlements for the year. The balance of the entitlement is not paid until fifteen to eighteen months later, after actual collections for the taxation year are compiled. For British Columbia the balancing payments amounted to $125 million for the most recent year, 1979, and these payments were not made until January and March 1981. The loss of interest income to the Province through this delay in payment amounted to about $22 million.

We note that the Tax Collection Agreements do not prescribe a specific method of estimation to be used for interim payments. Accordingly, we propose that the present method used by the federal government be changed to reflect the trend in each province's share of the tax base. We suggest that estimated payments to provinces for a taxation year should be based on the most recent actual provincial shares of the national tax base, plus (or minus) an adjustment to reflect the trend of each province's share for the three most recent completed years. In effect, this formula assumes a continuation of the trend shown in the three most recent years, and would help to overcome part of the lag in payments to some provinces, especially British Columbia.

Second, it should be possible to allow programs to be administered under the Tax Collection Agreements which deal with regional economic problems. The federal proposal to eliminate the only incentive which maintains investment in rental housing in British Columbia, as well as in certain other provinces, shows a disturbing lack of sensitivity on the part of the federal government to regional problems and the need for regional solutions to those problems. The federal government has no hesitation in providing different tax incentives to differing regions under its own income tax system. For example, the federal investment tax credit is greater in high unemployment regions than in other regions. Irrespective of whether we agree with this program, we do question the federal right to disallow essentially similar provincial programs in areas of clear provincial jurisdiction. Provincial tax incentives could be introduced which would have no impact on the federal tax base.

Third, we have some concerns relating to corporation income tax. Specifically, we are not satisfied with the manner in which changes are made to the allocation of corporate taxable income to the provinces. There are three provinces administering and collecting their own corporation income tax. Each of those three provinces have their own audit staff examining corporate tax returns, including the allocation of taxable income among the provinces. Each one can question the allocation of income made by a corporation and ask Revenue Canada to change an allocation they consider incorrect. The provinces which are still in the Tax Collection Agreements must rely on Revenue Canada to correct misallocations. But, as we have noted in the past, Revenue Canada is not very interested in allocation because a change in allocation of income among the provinces

results in almost no increase in overall corporate taxes. We propose that changes in the allocation of a corporation's taxable income among provinces should only be made after provinces have had an opportunity to examine the reasons for the proposed change. We need a mechanism in the Tax Collection Agreements to permit full consultation.

Finally, in order to place all provinces on an equal footing with respect to the degree of tax audit coverage, we wish to see an amendment to the Tax Collection Agreements requiring that Revenue Canada comply with a provincial request for a tax audit, and report the results of such a tax audit to the province. At the present time, we can request that Revenue Canada should carry out tax audits but there is no requirement for them to comply.

If agreement can be reached on the changes which I am proposing I am sure the result will be beneficial for Canadian taxpayers by making the present income tax system more responsive to provincial needs while maintaining the necessary degree of tax harmonization among federal and provincial government policies.

AN INVENTORY OF BRITISH COLUMBIA PERSONAL INCOME TAX PROVISIONS ADMINISTERED BY THE FEDERAL GOVERNMENT UNDER THE TERMS OF THE TAX COLLECTION AGREEMENTS AND BRITISH COLUMBIA PROPOSALS WHICH THE FEDERAL GOVERNMENT HAS REFUSED TO ADMINISTER

Prepared by:

Taxation and Intergovernmental Relations Branch,

Treasury Board Staff

Ministry of Finance

September 2, 1982

ACCEPTED

P.I.T. PROVISION:

Logging Tax Deduction (Sec. 6, British Columbia Income Tax Act, RSBC c. 190). (Applies to both personal and corporation income taxes).

DATE OF INTRODUCTION:

1975 and subsequent taxation years.

RATIONALE:

Acts as a supplement to the federal logging tax credit to fully offset the British Columbia logging tax.

FORMAT:

An amount equal to 1/3 of British Columbia logging taxes payable and paid is deducted from British Columbia income tax otherwise payable by a taxpayer for a taxation year. An amount equal to 2/3 of logging taxes payable and paid (maximum 6 2/3 per cent of the taxpayer's income from logging operations) is allowed as an offset against federal income taxes. Both the federal and British Columbia credits are non-refundable.

MODIFICATIONS:

None.

REVENUE REDUCTION:

1981 taxation year: $1.0 million (corporation and personal).

ACCEPTED

P.I.T. PROVISION:

Renters' Tax Credit (Sec. 4, British Columbia Income Tax Act, RSBC c. 190).

DATE OF INTRODUCTION:

1975 and subsequent taxation years.

RATIONALE:

To provide assistance to low income renters.

FORMAT:

A fully refundable tax credit equal to $150 less 1.5 per cent of taxable income, with a maximum allowable credit equal to 10 per cent of actual rent paid during the year. For married couples the credit can only be claimed by the spouse with the highest income. Taxpayers under the age of 16 or those claimed as a dependent and living in the home of the supporting taxpayer are not eligible for the credit. Taxpayers aged 65 or more have their credit reduced by the amount received under the Shelter Aid for Elderly Renters Act.

MODIFICATIONS:

The above format has been in effect for the 1979 and subsequent taxation years. For the 1975 through 1978 taxation years the tax credit was $100 less 1.0 per cent of taxable income with a maximum allowable credit equal to 10 per cent of rent paid during the year. For the 1975 through 1977 taxation years taxpayers 65 years of age or more were entitled to a minimum credit of $80.

REVENUE REDUCTION:

1981 taxation year: $21.0 million.

ACCEPTED

P.I.T. PROVISION:

Royalty and Deemed Income Rebate (Sec. 8, British Columbia Income Tax Act, RSBC c. 190). (Applies to both personal and corporation income tax.)

DATE OF INTRODUCTION:

Effective for taxation years ending after May 5, 1983.

RATIONALE:

Prior to May 5, 1973 gas and oil producers and mining corporations were able to deduct provincial royalty payments in calculating federal income tax. This was subsequently changed by the federal government when provincial royalties were substantially increased with rising energy prices, thereby eroding federal tax revenues. In place of royalty deductibility, the federal government allowed taxpayers to deduct a resource allowance which is calculated as 25 per cent of net resource income. (For the 1974 and 1975 taxation years, a federal abatement of tax was provided in place of royalty deductibility.)

In the case of British Columbia's natural gas producers an implicit provincial royalty is captured by requiring all gas producers in the province to sell their product to the British Columbia Petroleum Corporation (BCPC is a provincial Crown corporation) at a provincially determined field price. This gas is then resold by the Corporation at a higher wholesale price. The federal government deems the profit of the Corporation to be income of the gas producers and this deemed income is allocated among the producers for income tax purposes in proportion to the volume of gas sold to BCPC.

Producing provinces that are participants in the Tax Collection Agreements had to follow this tax treatment in assessing provincial income taxes even though they did not agree with it. Therefore, British Columbia requested that a tax credit be im-

plemented to rebate the increase in British Columbia tax resulting from the non-deductibility of royalty payments and the inclusion of deemed income.

FORMAT:

Those taxpayers with oil and gas or mining income complete two calculations. First they calculate their British Columbia income tax liability using the existing federal tax base (non-deductibility of royalties, inclusion of deemed income and deduction of a 25 per cent resource allowance). They then calculate their British Columbia income tax liability assuming full royalty deductibility (adding back the resource allowance and deducting royalties and deemed income from the federal tax base). The latter amount is subtracted from the former amount. Any positive balance is claimed as a tax credit and any negative amount must be paid as an additional tax. Since oil and gas royalty payments exceed the 25 per cent resource allowance, producers are usually eligible for a non-refundable tax credit. Unused portions of the credit may be carried forward. However, in the case of mining companies, provincial royalties are less than the 25 per cent resource allowance, therefore their provincial tax liability is actually increased by the difference between the two calculations.

MODIFICATIONS:

None.

REVENUE REDUCTION:

1981 taxation year: $1.5 million (corporation and personal) - this is the net cost of the credit (i.e., credits paid to oil and gas producers less the extra provincial tax paid by mining operators).

ACCEPTED

P.I.T. PROVISION:

Foreign Tax Credit - (Sec. 3 (8), British Columbia Income Tax Act, RSBC c. 190). (Applies to both personal and corporation income taxes).

DATE OF INTRODUCTION:

1976 and subsequent taxation years.

RATIONALE:

Currently, individuals earning income in another country who reside for at least a portion of the year in Canada must pay full federal and provincial income taxes on this income in addition to the taxes paid in the foreign jurisdiction. The federal and provincial foreign tax credits provide an offset to ensure that individuals are not double taxed on this income.

FORMAT:

Individual taxpayers may deduct from their British Columbia income tax payable a certain amount of taxes paid in another country in respect of income or profits earned in that country after the federal tax credit has been fully exhausted. This amount is defined as being the lesser of:

a) the foreign tax not allowed for federal purposes under Section 126 of the federal Act, or

b) the proportion of the amount of provincial tax payable that the net income in the foreign country is of the total income.

MODIFICATIONS:

None.

REVENUE REDUCTION:

Not included in annual final entitlement summary received from Federal Finance.

ACCEPTED

P.I.T. PROVISION:

Low Income Provision, 1977 (Sec. 11 (1) British Columbia Income Tax Act, RSBC c. 190).

DATE OF INTRODUCTION:

1977 and subsequent taxation years.

RATIONALE:

To ensure that low income individuals who do not have to pay federal income taxes because of the general tax reduction do not have to pay British Columbia income taxes.

FORMAT:

Individuals with a taxable income of $1,678 or less for the 1977 taxation year had their British Columbia personal income tax reduced to zero. British Columbia calculates its income tax as a percentage of basic federal tax before deduction of the federal general tax reduction ($200 minimum). Therefore, an individual who has basic federal tax payable of $200 pays no federal tax because of the minimum tax reduction, but would have been required to pay $88 of British Columbia tax if this provision did not apply. The level of taxable income below which this provision is applicable was adjusted by regulation in 1978 to take into account the effects of indexing.

MODIFICATIONS:

See Low Income Notch, 1979 (Section 11 (2)).

REVENUE REDUCTION:

See Low Income Notch provision.

ACCEPTED

P.I.T. PROVISION:

Low Income Notch, 1979 (Sec. 11 (2), British Columbia Income Tax Act, RSBC c. 190).

DATE OF INTRODUCTION:

1979 and subsequent taxation years.

RATIONALE:

To ensure that British Columbia personal income tax payable is never in excess of federal personal income tax payable. This provides tax relief to low income individuals.

FORMAT:

Individuals with a taxable income of $2,740 for the 1979 taxation year, or the amount prescribed by regulation in subsequent taxation years have their British Columbia income tax payable reduced to the level of federal income tax payable.

After the introduction of the low income provision in 1977, an anomaly developed whereby an individual with basic federal tax payable of $200 would pay no federal or British Columbia income tax. However, when basic federal tax was $201, federal tax payable after the general reduction was $1 but British Columbia tax payable jumped from zero to $88.44. To solve this problem the low income provision was amended so that provincial tax payable could never exceed federal tax payable.

This preserved the previous low income reduction and added a graduated phase out of the provincial tax reduction. The level of taxable income below which this provision is applicable is adjusted by regulation each year to take the effects of indexing into account. For the 1982 taxation year the level has been set at $2,890.

MODIFICATIONS:

None.

REVENUE REDUCTION:

1981 taxation year: $9.0 million (combined effect of low income and notch provisions).

ACCEPTED

P.I.T. PROVISION:

Political Contribution Tax Credit (Sec. 8 (1), British Columbia Income Tax Act, RSBC c. 190). (Applies to both personal and corporation income taxes).

DATE OF INTRODUCTION:

1979 and subsequent taxation years.

RATIONALE:

To provide individuals with an incentive to contribute to candidates and recognized political parties in respect of British Columbia provincial elections.

FORMAT:

The British Columbia credit is similar to the federal credit and provides for a non-refundable credit of:

a) 75 per cent of the contribution if the contribution does not exceed $100; or

b) $75 plus 50 per cent of the amount by which the contribution exceeds $100 but does not exceed $550; or

c) the lesser of:

i) $300 plus 33 1/3 per cent of the amount by which the contribution exceeds $550; and

ii) $500.

MODIFICATIONS:

None.

REVENUE REDUCTION:

1981 taxation year: $400,000 (personal and corporation).

ACCEPTED

P.I.T. PROVISION:

Provincial Personal Income Tax Credit (Sec. 3 (2), British Columbia Income Tax Act, RSBC c. 190).

DATE OF INTRODUCTION:

1981 and subsequent taxation years.

RATIONALE:

To provide tax relief to low income individuals and families. The credit targets maximum relief to larger families and the elderly. It was introduced in the 1981/82 budget to cushion the effects of increased consumer and energy taxes and inflation on low income families and individuals.

FORMAT:

A fully refundable tax credit of the amount by which three per cent of personal exemptions (personal, married, dependent, age and spousal transfers) exceeds 1.5 per cent of taxable income. All British Columbia residents may claim the credit, even if they pay no income tax as long as they are 16 years of age or more and are not claimed as a dependent by another tax filer and are not confined to a prison.

MODIFICATIONS:

None.

REVENUE REDUCTION:

1981 taxation year: $48.4 million.

ACCEPTED

P.I.T. PROVISION:

Personal 10 per cent Surtax (Sec. 3 (1), British Columbia Income Tax Act, RSBC c. 190).

DATE OF INTRODUCTION:

1981 and subsequent taxation years.

RATIONALE:

In combination with the Provincial Personal Income Tax Credit, this provision helps to increase the overall progressivity of the British Columbia personal income tax.

FORMAT:

An additional amount of British Columbia income tax is payable equal to 10 per cent of the amount by which provincial personal income tax payable exceeds $3,500. This surtax is calculated on provincial tax payable after allowances for the foreign tax credit and royalty tax rebate, but before any other provincial tax credit is applied.

For example, if a British Columbia taxpayer had basic federal tax payable of $10,000 his regular British Columbia tax payable would be $4,400 (44%). This exceeds $3,500 by $900. At a 10 per cent tax rate the British Columbia surtax would be equal to $90. Total British Columbia tax payable would therefore be $4,490.

MODIFICATIONS:

None.

REVENUE INCREASE:

1981 taxation year: $22 million.

REJECTED

P.I.T. PROVISION:

Dividend Credit (Section 4.1 British Columbia Income Tax Act, RSBC c. 190).

DATE OF INTRODUCTION:

Enacted in 1979, however, was not proclaimed into force as the federal government refused to administer the credit under the Tax Collection Agreements.

RATIONALE:

To stimulate increased savings, equity participation and investment in British Columbia public corporations which maintain their head office and central management in the Province.

FORMAT:

This provision would have provided a provincial non-refundable 5 per cent dividend tax credit. To calculate the credit the amount of dividends from a qualifying corporation that are in excess of the individual's $1,000 investment income deduction would have been grossed up 150 per cent. The tax credit against British Columbia tax payable would then have been 5 per cent of this grossed up amount. Only dividends issued by corporations which had their head offices and central management in British Columbia would have qualified.

MODIFICATIONS:

Not applicable.

REVENUE REDUCTION:

Not applicable.

REJECTED

P.I.T PROVISION:

Small Business Venture Capital Corporation Tax Credit (was to have applied to personal and corporation income taxes).

DATE OF INTRODUCTION:

Legislation was never enacted as the federal government refused British Columbia's request to have the credit administered under the Tax Collection Agreements (1979).

RATIONALE:

To encourage individuals and corporations to acquire equity shares in registered venture capital corporations providing new capital to qualifying small businesses in British Columbia.

FORMAT:

Had legislation establishing the registered Small Business Venture Capital Corporation (SBVCC) been enacted the credit would have worked as follows: British Columbia residents and corporations would have been allowed a tax credit equal to twenty-five per cent of the value of new equity shares purchased in a registered SBVCC. The maximum credit allowed any taxpayer would have been limited to the lesser of:

i) the amount of British Columbia income tax otherwise payable; or

ii) $25,000.

For taxpayers who could not claim the full value of the SBVCC tax credit in a given taxation year, the remaining credit entitlement could have been carried forward to future taxation years.

MODIFICATIONS:

Not applicable.

REVENUE REDUCTION:

Not applicable.

REJECTED

P.I.T. PROVISION:

Special Allowance for Handicapped Building Modifications (was to have applied to both personal and corporation income taxes).

DATE OF INTRODUCTION:

Legislation never enacted due to federal rejection of the plan (1979).

RATIONALE:

This provision, in keeping with past changes to the British Columbia building code, would have provided an incentive to provide access to new and existing buildings for handicapped people.

FORMAT:

British Columbia requested that an accelerated capital cost allowance for costs incurred in adapting buildings to the needs of the handicapped be implemented for both federal and provincial income tax purposes.

MODIFICATIONS:

Not applicable.

REVENUE REDUCTION:

Not applicable.

REJECTED

P.I.T. PROVISION:

Housing and Employment Development Bond Interest Deductibility (was to apply to both personal and corporation income tax).

DATE OF INTRODUCTION:

1982, not implemented.

RATIONALE:

In order to provide a limited amount of low-interest rate funds for housing programs and employment initiatives within British Columbia, the Province proposed to issue a limited amount ($250 million) of tax freee bonds.

FORMAT:

Interest on these bonds would have been exempted in calculating federal and British Columbia personal and corporation income taxes. Had this proposal been accepted, it would have been possible to raise funds at interest rates almost 50 per cent below prevailing market interest rates. The federal government refused to implement this measure when notified in early June, 1982 and subsequently introduced its own tax-oriented indexed term certificates in the June 28, 1982 federal budget.

MODIFICATIONS:

See Housing and Employment Development Bond Tax Credit (next page).

REVENUE REDUCTION:

Not applicable.

PENDING

P.I.T PROVISION:

Housing and Employment Development Bond Tax Credit (Sec. 8 (2) British Columbia Income Tax Act, RSBC c. 190). (Applies to both personal and corporation income tax).

DATE OF INTRODUCTION:

1982. Legislation was enacted and will be proclaimed into force if the federal government agrees to administer the credit under the Tax Collection Agreements (decision still pending).

RATIONALE:

To provide a limited amount of low-interest rate funds for programs and employment initiatives within British Columbia.

FORMAT:

Since the federal government refused a federal and provincial tax exemption for interest on these bonds, the Province has asked the federal government to administer a provincial tax credit that would achieve the same effect but for British Columbia income tax purposes only. A fully refundable British Columbia tax credit would be provided to rebate the approximate amount of British Columbia personal and corporation income tax that would be paid on interest received from these bonds. For individuals the yearly credit would be 13.5 per cent of qualified interest received; for corporations 16 per cent; and for small business corporations 8 per cent. In the case of individuals the exact amount of the tax is not refunded due to the complexity of the calculations which would be required. It has therefore been decided to set the credit for individuals at a level approximately equal to the marginal provincial tax rate in the second highest tax bracket, prior to the application of the 10 per cent provincial surtax. This flat rate of credit makes the bonds more attractive to lower and middle income investors than would an exact refunding of actual tax paid. In the case of corporations the credit would provide a rebate of the exact amount of British Columbia tax paid.

Application of the tax credit will allow these bonds to be issued at interest rates below prevailing market rates. This will provide low interest funds for housing and employment projects.

A decision from the federal government is still pending.

MODIFICATIONS:

Not applicable.

REVENUE REDUCTION:

Not applicable.

Ontario

Ministry of
Treasury and
Economics

4th Floor, Frost Building South

Queen's Park
Toronto Ontario

October 18, 1982

Mr. David Conklin
Ontario Economic Council
81 Wellesley Street East
Toronto, Ontario
M4Y 1H6

Dear Mr. Conklin:

Attached are our responses to the 7 questions posed by Tom Courchene in his letter to Tom Campbell on July 29. Please give me a call at 965-5738 if you have any questions or problems, or if you would like any further information.

Yours truly,

Len Roozen
Senior Budget Advisor
Taxation Policy Branch

Att.

A. ONTARIO TAX CREDITS

1. The Ontario Tax Credits (OTC) were first introduced in 1972.

2. The OTC program was introduced as an integral part of the restructuring of the Ontario personal income tax system. The credits were designed as a mechanism to allow the Province flexibility in redistributing the property tax burden and, thereby, promote a more progressive property tax structure by linking individual income with residential taxes.

3. The following table details the formula that has been used since 1972.

Table 1: Ontario Tax Credit Formulae 1972-82

	1972	1973	1974-79	1980-82
Basic Credit ($)[1]	90	90	180	180
% Occupancy Cost Added	10	10	10	10
% Personal Exemptions	-	1	1	1
Pensioner Credit ($)	-	100	110	-
% Taxable Income Offset	1	1	2	2
Maximum Credit ($)	250	400	500	500

1. The Basic Credit is equal to the lesser of occupancy cost or the basic credit listed, where occupancy cost is equal to property taxes paid and/or 20 per cent of total rent paid. A flat $25 is assumed for students in residence.

4. In 1973, there were 3 major changes made to the Ontario Tax Credits.

   i) The Ontario tax credit program was expanded to include a Sales Tax Credit equal to 1% of total personal exemptions. The sales tax credit was introduced to soften the impact of the retail sales tax increase from 5% to 7% for low-income persons with large families.

ii) The 1973 Budget also replaced the $100 supplementary grants to Ontario seniors with a $100 additional basic credit (limited to persons 65 years of age or older).

iii) The maximum credit limit was increased from $250 in 1972 to $400 to accommodate the pensioner and sales tax credits.

In 1974, the OTC program was enhanced as follows:

i) The basic property tax credit was doubled from $90 to $180 and the income offset was increased from one to two per cent. This change was designed to allow an enhanced flow of benefits to low-income individuals, while maintaining the overall progressivity of the program.

ii) Pensioner credit was raised to $110.

iii) Maximum credit was increased to $500. This increase was introduced to accommodate the enhanced basic credit and pensioner credit.

In the 1980 Budget, the Honourable Frank Miller replaced the property tax credit for pensioners with direct grants of up to $500 per year. Also, all pensioners receive a direct sales tax grant of $50 in lieu of a sales tax credit. This change was made for two reasons. First, the move to direct grants would allow greater benefits to flow to all pensioners. This is commensurate with the commitment made by Premier Davis in the Charter for Ontario to reduce or eliminate the property tax burden for pensioners. In addition, the direct grants are meant to recognize the lifetime contribution all pensioners have made to the province. Second, the move to direct grants greatly simplified the filing procedures for pensioners, many of whom were filing income tax returns largely for the purpose of claiming a credit.

Finally, in 1981, the Honourable Frank Miller introduced the Temporary Home Heating Credits and Home Heating Grants. (Only persons 65 years of age and over may qualify for the Home Heating Grant). This is a three-year program for which anybody eligible to claim an Ontario property tax credit may qualify.

Table 2: Temporary Home Heating Credit Formulae 1981-83

	1981	1982	1983
Basic Credit ($)	60	40	20
% Taxable Income Offset	1	1	1

Note: The Temporary Home Heating Credit is calculated separately from the other credits and is not included in the $500 maximum.

As its name implies, the program was brought in to soften the impact of rapidly rising home heating costs for low-income individuals. The Home Heating Grant for seniors is equal to the basic credit for each of the three years.

5. Table 3 details the cost of the OTC program since 1972.

Table 3: Total Payments of Ontario Tax Credits 1972-1981

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
No. of Recipients (000)	2,329	2,843	2,898	3,013	2,985	2,980	3,045	2,932	1,966	1,864
Total Credits($M)	180	296	385	404	420	432	452	451	243	239

Please refer to Table 1 and item (4) for changes affecting the cost of the Ontario Tax Credits.

Source: Ontario Treasury estimates

B. THE ONTARIO INCOME TAX RATE

1. Since 1972, the Ontario income tax rate has been changed only once (1981) for reasons other than a change in the federal tax base (1977).

2. The numerous changes made by the federal government to the tax system from 1972 to 1980 were gradually eroding the Province's income tax base. As a result, the income tax system was becoming increasingly less responsive to changes in income, and the Province's revenues were growing at a slower pace than expenditures. As a result, the Treasurer deemed it necessary to increase the rate to generate the necessary revenue.

3. In his 1981 Budget, the Treasurer announced that effective July 1, 1981 the Ontario tax rate would be increased from 44 to 48 per cent of basic federal tax. Administratively, this measure translated into a 46 per cent rate for the 1981 taxation year and 48 per cent for 1982.

4. Not Applicable

5. As a result of this move, the Province's revenues increased by $220 million in 1981 and $480 million in 1982.

C. ONTARIO TAX REDUCTION

1. The current scheme was introduced in 1975. (Other forms of Provincial tax reductions have existed for certain but not all taxation years prior to 1975).

2. The purpose was to exempt from Provincial income tax all persons who paid no federal income tax.

3. For 1975, all persons with taxable income of $1,395 or less paid no Provincial income tax. A statement to this effect was printed on the tax form and the tax tables were set up to reflect the reduction.

4. (a) The taxable income level of $1,395 represents the level at which basic federal tax in 1975 was $200 (the level below which no federal tax was payable). As a result of indexing, the taxable income threshold increased annually. The following table presents the taxable income level below which no Provincial tax was payable for the taxation years 1975-82:

Taxation Year	Taxable Income
1975	$1,395
1976	1,540
1977	1,680
1978	2,310*
1979	1,770
1980	1,820
1981	1,874
1982	1,944

* the minimum federal tax reduction was raised to $300 for 1978 only. Ontario exempted from tax all persons with federal tax of $300 or less (equivalent to taxable income of $2,310 or less).

(b) The Ontario tax reduction produced a situation where a taxpayer with taxable income marginally above the exemption level was required to pay the full Provincial income tax. For example, in 1975, at $1,395 taxable income, no Provincial tax was payable, but at $1,396, $88 was payable. In 1981, Ontario amended the tax reduction to smooth this "notch" situation. The following formula was adopted for 1981:

For taxable income between $1,874 and $2,058, the reduction is:

$$\frac{\text{2,058 minus Taxable Income}}{\text{divided by 2}}$$

For 1982, the $1,874 and $2,058 levels were raised to $1,944 and $2,136, respectively.

5. The revenue cost of the tax exemption component of the Ontario tax reduction has been $15-20 million in each taxation year from 1975 to 1982, except for 1978, when the cost was $38 million. The notch smoothing provision costs about $3 million (1981-82).

D. GENERAL RESPONSE WITH RESPECT TO QUESTIONS 6 AND 7

6. Basic criteria on administrability, economic efficiency and maintenance of a common tax base have been set forth by Ottawa for accepting or rejecting policy requests, and provinces assess their own policy proposals on the basis of these criteria prior to carrying them forward officially. Ontario has not had any policy proposals rejected by the federal government on the basis that they conflicted with federal policy criteria. By extension, of course, any number of policy ideas may have been considered and dismissed by the provinces internally in full knowledge that they would fail to meet federally imposed conditions.

   There have been bilateral discussions on specific policy proposals which did not violate these criteria, but which were ultimately amended or withdrawn from discussion unilaterally by Ontario on the basis that they involved nebulous design difficulties or subtle philosophical discrepancies with federal policy.

7. Our degree of satisfaction with the negotiation process on tax structure issues is difficult to quantify. Negotiations occur on provincial PIT policy initiatives (i.e. credits) and on tax issues of mutual concern and benefit such as reciprocal sales tax agreements. No forum exists for negotiations or consultations on federal policy initiatives, although post-facto discussions occasionally occur at meetings of Finance Ministers or its Continuing Committee of Officials on Fiscal and Economic Matters. Negotiations on policy initiatives, usually between federal finance and revenue officials and the Province, are generally frank, cordial and productive, since Ontario knows the extent to which its initiatives are likely to be successful and initiates accordingly.

   It has always been Ontario's view that a personal income tax policy formulation forum is necessary if the Province's views on its largest tax, (representing 1/3 of total income tax) are to be adequately incorporated into the policy process. To date that view has not prevailed, although Ontario proposals for shared-cost sales tax reductions (financed through a transfer of personal income tax revenues) and reduced top marginal tax rates have produced results.

As federal policy continues to develop in directions not in keeping with Ontario priorities (e.g. the November 1981 Federal Budget moves) and without prior consultation, Ontario can only become progressively less satisfied with the negotiation process.

3
Quebec's experience with the personal income tax[1]

Quebec adopted its own personal income tax system in 1954 and has continued to make significant changes at variance with the federal system. The purpose of this chapter is to explore the reasons why Quebec went it alone and what this has meant in provincial and federal-provincial policy terms.

The chapter consists of four sections. The first discusses Quebec's complex (and little understood outside the province) initial objectives in establishing a separate PIT - objectives that have evolved with changes in persons and circumstances. The second considers the extent to which these initial objectives were achieved. The third section deals with Quebec's actual use of its own PIT system as well as the 'substantive and purposeful gaps' that have arisen and the shift from coordination to competition that has occurred. A final section sets forth some policy implications.

INITIAL OBJECTIVES

The introduction by the government of Quebec in 1954 of a personal income tax directly collected by that province was a major and most spectacular development. However, in describing this event and in interpreting its significance, it is dangerous to be unduly influenced by the hindsight

1 This chapter was written by Claude Forget. Given the nature of the subject matter, it necessarily reflects a personal interpretation of the events discussed. The author, who is both a lawyer and an economist and a former professor of economics at the University of Montreal, was elected to the Legislative Assembly of the Province of Quebec in 1973. He served as minister of social affairs in the cabinet of Robert Bourassa from 1973 to 1976. He resigned from the Assembly in 1981. He currently teaches at McGill University and acts as a consultant.

provided by later developments and subsequent history. In other words, we should resist the temptation to attribute to the Quebec government of the mid-1950s an ability to foresee the ultimate consequences of its decision. For instance, we can say today that Quebec nationalism was a factor in the decision to set up the Quebec PIT. But words like 'nationalism' cover very different realities over time; it should not be assumed that the Quebec nationalism that was operative in the 1950s was simply carried over into the 60s and the 70s. There are more than simple differences of degree between the nationalism promoted by Maurice Duplessis and the nationalism embodied in the program of the 'quiet revolution' and, to an even greater extent, in the program and policies of the Parti Québécois. More precision is therefore required.

The creation of separate Quebec PIT collection machinery in 1954 and the abandonment of tax rental agreements that this move foreshadowed were the results of a struggle for power between Ottawa and Quebec. But power over what, precisely? A blanket reference to intergovernmental power struggles is no more helpful than a general reference to nationalism. The nature of the power struggle between Quebec and Ottawa in the mid-1950s was just as specific to that period and to the existing political forces as was the type of nationalism upheld by the provincial political leadership of the time. If we attempt to be more specific about the objectives of that struggle, we must come to the conclusion that it was not primarily power over financial resources per se that Duplessis sought. Indeed, in 1952, the 'generosity' of the federal tax offer to the various provinces was such that Quebec found itself isolated. If Quebec had only been after money, it would have followed the other provincial governments and accepted Ottawa's offer to renew the tax arrangements on its own terms.

The connection between 'nationalism' and the Quebec PIT deserves closer examination. Although the purely constitutional case for taxing powers as the main prop of provincial autonomy is intellectually unimpeachable, actual taxes as opposed to 'taxing powers' are not normally very popular and are therefore seldom treated as a political asset. Thus the Quebec government's use of a tax as a symbol of nationalism and its scoring of a political success in doing so has a flavour of paradox. What may account for this paradox is the fact that the Quebec government was not really trying to obtain more money for itself. Indeed, the net yield of the tax (after allowing for administrative costs of collection) was not

greater than the sum available as a grant from the federal government. Yet neither is it enough to say that the Quebec government only wanted a 'symbolic' victory. What was really at stake, in an implicit and oblique way, was not only the power to tax, but also the power to spend for provincial purposes. By having its own autonomous PIT, Quebec was in effect challenging Ottawa's assumption of its right - on the basis of its superior financial resources - to determine areas of provincial jurisdiction where the 'national interest' required that more be spent (such as higher education, the Trans-Canada Highway, etc.), something the provinces could hardly envisage doing on their own while they were kept on a tight financial leash by Ottawa. The success of that argument hardly depended on whether the provincial government actually increased its spending in those areas or not; indeed, it probably helped with a large segment of Quebec public opinion that everybody knew that it would not.

In the 1952 provincial election campaign, Duplessis had been quite explicit in his rejection of the tax on individual incomes as a source of revenue for financing provincial expenditures. A provincial PIT had last been introduced by the Liberal Party of Quebec after the 1939 election, which had thrown Duplessis out of office, and he was opposed to resurrecting it in Quebec. Duplessis was a most conservative politician, and he held deep convictions against an increasing role for the state and against the blunting of incentives that is inescapable with any form of taxation. To the extent that a provincial PIT was a symbol, it would serve less as a symbol of the fiscal autonomy of Quebec in the field of taxation than as a symbol of the autonomy of the province in the field of public expenditure. More specifically, Duplessis wanted to assert provincial autonomy as a way of blocking or at least undermining the federal government's extremely wide interpretation of its spending power - an interpretation that included fields of provincial jurisdiction and spending for provincial purposes.

Duplessis was at pains to stress the constitutional division of legislative powers as a guide that should be used by governments to divide taxing powers. He saw a very close correlation between legislative authority on the one hand, and taxation and spending on the other. The federal government strenuously denied any such correlation.

Support from traditional nationalist circles for Duplessis' stand was rooted in the perception - which Duplessis shared - of a link between federal grants to universities (the other burning issue of the day) and the tax-sharing issue. Therefore, Duplessis set himself the goal of obtaining

the power to tax personal income separately from Ottawa - in political terms, especially for him, a rather thankless undertaking - not so much because he wanted to use this victory and this power but instead to sterilize, as it were, a part of the country's fiscal capacity and to slow down the growth of the government's role. This may explain why, after his fiscal victory over Saint-Laurent, he forbade Quebec universities to touch any of the federal grants offered them and kept higher education in Quebec on a starvation diet.

A government more inclined to spend might have preferred larger cash payments from Ottawa to the acquisition of a power to tax. But Duplessis was an arch-conservative ruling an ultra-conservative society. To make full use of the power to impose a PIT at a rate set independently of Ottawa's fiscal policy was inconsistent with Duplessis' beliefs. He claimed the power and eventually won it, but he had no intention of making more use of it than was necessary to justify his fight to obtain it. To do more would have meant bringing about changes that he did not want. He was not about to challenge the role of the Catholic Church in running educational institutions, to usher in 'Socialism' in the guise of hospital insurance, or even to challenge the traditional role of the federal government with an aggressive 'revisionist' policy.

The report of the Tremblay Commission (officially known as 'The Royal Commision of Inquiry into Constitutional Problems' and presided over by Judge Thomas Tremblay), which Duplessis had set up to help him against the Ottawa Leviathan, opened the door to such an extension of the provincial government's role: among its recommendations was the idea of claiming for Quebec exclusive control of all direct taxes. Frightened by the prospect, Duplessis kept the Commission's report under wraps.

Partisan considerations were not and could not be entirely foreign to Duplessis' decision to make a fight of the income tax issue. The Union Nationale had been born in 1935 out of an alliance between the Quebec Conservative Party and the dissident Action Libérale Nationale, a splinter group from the Quebec Liberal Party made up of very vocal nationalists. To retain the loyalty of many of his supporters, Duplessis had - on perhaps only a few well chosen issues - to strike a nationalist posture. The original Wartime Tax Rental Agreements with Ottawa had been increasingly resented by nationalist groups in Quebec; its continuation in peacetime added, as it were, insult to injury, for it was seen as a de facto surrender of provincial rights over direct taxation. The constitutional

authority to levy direct taxes was seen as the foremost symbol of sovereignty at the provincial level; a province's right to levy such taxes as the indispensable measure of its much-valued non-subordination to the central government. Those views were common currency in nationalist circles and provided the backdrop for Duplessis' uncompromising stance. There is no reason to doubt his own sincerity, but it is unfair to portray him as an unbending doctrinaire. On some issues, such as the 1951 constitutional amendment to allow Ottawa to take responsibility for old age pensions, he showed that he could bend his principles to political expediency.

Duplessis had a third and possibly just as relevant reason on partisan grounds to pursue the course he did. The Union Nationale was interested in painting its political opponent, the Liberal Party of Quebec, as a mass of disloyal collaborators with the central government. After all, it had been the Liberal premier, Adelard Godbout, who in 1940 had been party to the original tax rental agreement, and there was some partisan mileage to be made in undoing what Godbout had wrought.

Finally, why did this confrontation between Quebec and Ottawa over PIT happen when it did? After all, the objectives outlined above have a timeless dimension. Were they not just as valid in 1946 as they were in 1953? Indeed, Duplessis' position was consistently maintained over the whole period; in fact, the initiative did not mainly come from Duplessis but from Ottawa. Side by side with Ottawa's uninterrupted attempt to retain total control over direct taxation in the post-war period was a major offensive on the expenditure side to assume control in the most important field of provincial jurisdiction, namely education. Confronted by the prospects of provincial elections in 1952, Duplessis bought time and appeared to vacillate; the electoral hurdle having been successfully overcome, he counterattacked on all fronts. First, he refused to continue into 1953 the acceptance of federal university grants. In 1953 came the setting-up of the Tremblay Commission, and in January 1954 the bill establishing the Quebec PIT was introduced. The federal tactic of isolating Quebec, used in the 1952 renewal negotiations, together with the massive federal escalation on the expenditure side, left Quebec no alternative but to fight or concede defeat on all fronts. With the election behind him, Duplessis was now in his fourth term in office and in his mid-sixties. He had nothing to lose. His uncompromising positions on taxing and spending powers, reaffirmed through the 1952 campaign, left him with no tactical room to man-

oeuver in any case.

EXTENT OF REALIZATION OF INITIAL OBJECTIVES AND UNANTICIPATED CONSEQUENCES

Before going on to discuss the extent to which the Quebec government succeeded in attaining its initial objectives, it is appropriate to ask what made success possible. Against the desire of the federal government, Quebec set out to:

- establish its own PIT, including its own collection machinery;
- obtain a widening of deductibility rules under the federal PIT for the provincial tax.

It was successful on both counts - an outcome that surprised observers and participants alike. The following factors would appear to have contributed to that success:

- Quebec based its case on a rigorous reading of the constitution, and it held firmly to that interpretation over many years. Hence, the Quebec government was not vulnerable to charges of inconsistency. Quebec was not attempting to change the constitution to its own benefit, its interpretation was not stretched, and it carefully avoided any extension that might smack of extremism.

- The federal government's position was fraught with contradictions. It had acquired control over direct taxes on a temporary basis for wartime purposes; but it wanted that situation to become permanent in peacetime. By 1953, which marked the end of the Korean War, even the rhetoric of the cold war was wearing thin as a justification for the federal position. By offering money to universities, it acknowledged the existence of financial needs in areas of provincial jurisdiction, but it was unbending in its sharing arrangements, allowing provinces that might choose to levy a PIT to benefit from only a meager 5 per cent deductibility against the federal tax. It paid lip service to provincial rights in the field of direct taxation but insisted on rigid uniformity in its arrangements with the provinces.

- Opposition to the Quebec position both federally and provincially discredited itself by sidestepping the issue and attempting to paint

Duplessis as an extremist (or even a separatist). Since he was anything but that, the argument misfired.

- As was indicated above, Duplessis' victory in the 1952 election against a background of mounting federal-provincial disagreement gave him an important advantage, considering the political alternative confronting the Quebec electors in that election. This advantage could not be compensated for by the federal election of 1953, whose results were, as is so often the case in Quebec, a foregone conclusion.

- For all or for some of the foregoing reasons, public opinion also strongly supported the provincial government. Nationalist support was obvious and vocal. However, that support was not limited to the rather narrow circles traditionally identified with nationalism, such as the Action Nationale, the Saint Jean Baptiste Society and Le Devoir, but extended even to the Montreal and provincial chambers of commerce. Even a strict constitutionalist of very different persuasion, Pierre E. Trudeau, joined forces with the nationalists on the issue of university grants. However, the most revealing demonstration of public support was found in the public hearings of the Tremblay Commission. It has been said that it was through those hearings that Duplessis discovered the opportunity to press ahead with the plan for a provincial PIT.

Granting that Duplessis won the confrontation, to what extent were the underlying objectives he pursued attained? Although his political triumph was total, in technical-fiscal terms his victory was less than complete. With the provincial tax set at 15 per cent of the federal tax, Ottawa only increased its own deduction from 5 to 10 per cent. It is unclear whether the more generous personal exemptions granted under the provincial PIT ($1,500 instead of $1,000) were meant to bring the yield of the provincial tax to 10 per cent of the federal tax and so qualify it for total deductibility or whether they corresponded to a desire to minimize the number of taxpayers who would have to file two tax returns. In any case, for those taxpayers filing two returns, double taxation was not entirely avoided.

The PIT challenge was also a complete success on partisan grounds. In the debate about the PIT double taxation threat, Duplessis was skillful

or lucky enough to manoeuver his Liberal opposition in Quebec into the position he probably wanted it to adopt. Bolstered by private assurances from the federal finance minister that Ottawa would never yield to Duplessis' demands, the provincial Liberals opposed the provincial government's strategy to 'win back' its PIT powers. In the event, however, the federal government backed down under the threat of double taxation and unfavourable opinion and left the Quebec Liberal opposition high and dry. Duplessis had succeeded in making it appear less willing than even the Ottawa government to accept the validity of Quebec's claims to fiscal autonomy. Largely for this reason, the Liberal Party was soundly beaten again in the 1956 provincial election.

The provincial effort to stem the central government's centralizing drive did not immediately succeed. Encouraged by its success on the tax side, the Quebec government proceeded, in effect, to forbid the acceptance of federal university grants by Quebec universities. Undeterred, Ottawa allowed the grants intended for Quebec universities to accumulate in a trust fund, thus building up the pressure. It was left to Duplessis' successors to end the impasse.

However, in a broader sense, the conclusion to this Quebec-Ottawa confrontation can be said to constitute a watershed in the country's constitutional evolution and certainly in the history of federal-provincial financial arrangements. Prior to 1954, there had been a long and important series of decisions taken in Ottawa that brought about spending programs entirely financed, regulated, and administered by Ottawa in areas of provincial jurisdiction: unemployment insurance, family allowances, and old age pensions. Two of these programs had required constitutional amendments to which Quebec (in one case under Duplessis) had consented. After 1954 came even more significant spending programs on federal initiative: hospital insurance, medicare, and social assistance. In all cases, these programs would be cost-shared with the provinces, but provincially administered. It is of course, a matter of speculation whether they would have been introduced as cost-shared programs, instead of completely federal programs, had the philosophy behind the Tax Rental Agreements not been successfully overturned. In the case of Quebec, however, even that measure of recognition of provincial rights was not enough. The opting-out arrangements of 1964 were, in a sense, the logical consequence of the 1954 battle. The Federal-Provincial Fiscal Arrangements and Established Programs Financing Act of 1977 in part

solidified for all provinces the situation created by the opting-out arrangements of 1964 and, in a sense, represents the ultimate consequence of Quebec's early success in the field of personal income taxation.

However, if one looks at these events in the light of the nationalist-regionalist objectives that were so powerfully strengthened by the 1954 struggle, it could be argued that the success achieved was more symbolic than real. The 1964 opting-out arrangements, as well as the 1977 EPF arrangements, retain elements of provincial subordination, and the provision of cash transfers detracts from a pure 'autonomist' or provincial rights model. The hope nurtured in nationalist circles that the 1954 victory signalled the eventual roll-back of Ottawa's presence in taxation fields was never realized. The Union Nationale campaigned in 1966 with a slogan inspired by the Tremblay Commission's recommendation of full provincial occupancy of all direct tax fields. It had to quickly forget about that slogan when in office.

To sum up, the 1954 PIT act adopted by Quebec was a masterful political stroke. Its long-term influence on the evolution of federal-provincial financial relations should not be underestimated, since it fully reasserted the principle that each province could adopt vis-à-vis personal income taxation whatever policy it deemed apporpriate both as regards tax rates and the structure of the tax. However, because the real focus of the power struggle was on the expenditure side, the full advantage of the provincial victory could be exploited only by a government that was inclined to outspend its 'competitor'. Duplessis' government was not so inclined, so that the tactical advantage gained in 1954 lay dormant until 1960. However, the ambitious goal of provincial fiscal autonomy was achieved neither in 1954 nor in the 1960s. Indeed, it remains elusive down to this day.

QUEBEC'S ACTUAL USE OF ITS CONTROL OVER THE PIT

Although, as was stated above, Quebec has been able to do whatever it wants as regards both tax structure and tax rates in relation to its self-administered PIT, it has been impossible to predict exactly what balance will from time to time be struck with respect to divergent considerations. On the one hand, prudent fiscal management (i.e., concern not to produce tax differentials between Quebec and other provinces that might be injurious to Quebec's own economy and/or that would make compliance by tax-

payers to two PIT laws unduly burdensome) tends to limit the extent to which this power is effectively used. On the one hand, the special characteristics and needs of the province, as well as various policy objectives thrown up by the provincial political process, tend to increase over time the discrepancy between the federal and the provincial PIT. It is to be expected that whatever this balance is, it will not be constant over time.

Tax harmonization

A general observation must be made about legal parallelism between any federal and provincial statutes. This is a feature found in any federal system wherever the two levels of government happen to legislate on the same topic. It is to be observed, for instance, in the fields of labour law and company law. One of the laws - frequently the federal statute - has been enacted before the other and has served as a model for it, since consistency is a prized characteristic of legal rules. Because of legislative inertia, even after many years and several unrelated amendments on the two 'sides', there must and does remain a wide area of similarity. Basic concepts - especially as embedded in case law - are bound to continue essentially unaltered for a very long time indeed. This parallelism is a frequent feature of law-making in federal countries.

A better test of harmonization as an effective policy goal would consist of subsequent amendments in law 'A' to match amendments introduced in law 'B' after law 'A' had been enacted. Now harmonization (or words to the same effect) is like motherhood: there is no lack of well-meaning declarations by legislators that can be quoted in its support. Harmonization efforts are, however, quite something else.

In 1966, the Quebec Commission of Inquiry into Taxation (the 'Belanger Commission', after the name of its chairman) observed that:

> The Quebec income tax act enacted in 1954 was modelled after the federal income tax, as it stood on January 1, 1954... However, the text of the Quebec act saw its references to given sections of the federal act, as amended since 1954, only adjusted in 1960. The Quebec act was thereafter brought up to date on January 1, 1965 so as to accord with the federal act.

The Commission thereupon suggested that references to specific sections of the federal act as they stand at a certain date be replaced by references to corresponding sections of the federal act 'as they stand for

the same fiscal year with the proviso that regulations by order in council can prevent the automatic parallelism to prevail'. Not much was done with this recommendation until 1972, when a new Quebec tax law was brought in which adopted an entirely different approach.

The new 'taxation act' incorporated into one piece of legislation the Income Tax Act, the Corporation Tax Act, and the Logging Tax Act. This was done for the sake of convenience and efficiency, with the long-term objective of eventually drafting one single revenue code. In order to make the provincial act a piece of autonomous legislation, all references to the federal act were weeded out. Instead of following the federal structure, the Taxation Act was given one of its own. For example, definitions and rules of interpretation are found at the beginning of the act instead of at the end. Also, the divisions were set out differently, so that the provisions could be more clearly outlined. Consequently, the Taxation Act contained 934 sections as opposed to the federal total of 260. Cross-referencing between the two acts was difficult, but the objective of having the Quebec act stand on its own was met. In tabling this piece of legislation, the minister of revenue said:

> I would like to add, finally, that this bill presented to this legislature is complete in itself and makes no reference to any other income tax act. Moreover, it has been drafted from scratch in French and in the legislative drafting style usually used for all other pieces of legislation by the government of Quebec. This will probably meet with the approval of several members of this house who were annoyed at our borrowing from the federal act many of its dispositions. (Journal des Débats, June 23, 1972, 1, 598, author's translation.)

In this instance, we see that the so-called goal of harmonization can easily give way not only to higher order goals having to do with questions of substance but also to matters of form. This statement is in no way derogatory, since it may well be true that the resulting Quebec PIT act is in some objective way better drafted than the federal act. However, the fundamental point with respect to tax harmonization remains. The initial impact of this change in drafting style may not be dramatic, but with judicial interpretation, it is bound to grow over time. It was also probably felt that legislation by reference to the federal statute as the latter evolved was tantamount to a renunciation of sovereignty and meant undoing the achievement of 1954.

Substantive and purposeful gaps

Nevertheless, there are also abundant substantive reasons for Quebec's divergence from the federal PIT, and most of the differences between the provincial PIT and its federal counterpart presumably reflect policy goals of a higher order than harmonization itself. Interestingly, threats have sometimes been made that the province would 'have to' strike out on its own and diverge from federal tax policy. For instance, during his April 5, 1963 budget address, Premier Lesage made the following statement:

> Twelve months will go by before the next budget speech. Either the federal government - whatever party is elected on April 8, and I repeat whatever party is elected on April 8 - the central government will have to make use of these twelve months to make allowance for Quebec's needs or else we in Quebec will have to take steps on our own side to make the required decisions in fiscal policy. And the decisions will be those imposed on us by the aims of economic, social, and cultural affirmation we have set ourselves at the request of the people of Quebec.

This statement, made when Quebec was pressuring the federal government for a greater share of its revenues and Ottawa was not being very accommodating, sounded like an ultimatum. The federal government reacted by agreeing to give Quebec an increasing share of its revenues. Hence, although Quebec made no change to its act, by threatening to do so and thereby raising the spectre of double taxation once again, it made an effective use of the fact that it already had its own PIT system in place.

At another time, a similar threat was made not to obtain greater deductibility for the provincial from the federal tax, but to secure some change in tax structure provisions of the federal tax.

In 1971, Quebec questioned several of the tax reform measures suggested by the federal government in the Benson White Paper, objecting in particular to the proposed integration of corporate profits tax with the personal income tax. Concerned about the administrative and economic difficulties this would create, the province urged Ottawa to reconsider. In the 1971 budget address, Quebec's policy with regard to tax harmony was clearly stated:

> One of the features of the Canadian taxation system is its high degree of uniformity throughout the country, even for taxes levied by the provinces

themselves. Quebec feels it is advisable to have agreement, unless there are special reasons, in the tax base definitions adopted by various jurisdictions. There is serious danger that the opposite may become the general rule if the federal government adopts the proposed integration system. Quebec - and even Ontario, which has indicated that it will collect its own personal income tax if tax reform takes place in accordance with the White Paper - could very well have no other choice but to keep the actual system of dividend credit, while improving it.

We therefore strongly urge the federal government to revise its position while there is still time, rather than instigate fiscal anarchy through changes unwanted by other jurisdictions. (Budget address, 1971, 23.)

Accordingly, compromises were worked out, and in December 1971 the minister of finance, Mr. Garneau, announced that Quebec would accept the federal tax reform, as amended in principle, and incorporate the changes into its own act. These threats and federal reactions to them suggest that the Quebec government has seen tax harmonization as a matter of more interest to the federal government than to itself - a perception that the federal government appears to have shared.

With respect to the White Paper proposals, it is of course possible to argue that provincial governments were just as committed to harmonization as the federal government was, but that both levels realized that harmonization was not a sufficient reason for the provinces to agree to an otherwise highly controversial innovation in fiscal policy. In that case, the threatened provincial dissidence would have been a convenient excuse for Ottawa to quietly abandon integration without necessarily being the most important reason for that change of heart.

Differences between the federal and Quebec PITs resulting from purposeful decisions of the Quebec government have been accumulating from the start. As has already been mentioned, the personal exemptions under Quebec PIT were originally set higher than the federal ones ($1,500 vs. $1,000). When the differential was removed in 1960, it was clearly done not in order to harmonize the two taxes but because of provincial revenue requirements (in effect, to help finance the provincial share of hospital insurance).

In 1973, the Quebec government announced a major divergence from the federal act: it had decided not to follow Ottawa's 1972 lead with regard to indexing. The justification invoked was that the move was too costly and that superior equity could be achieved by selective rate reductions aimed at lower-income taxpayers.

It must be said that to this day no Quebec government has accepted

the principle of automatic full indexing of the PIT. From time to time, discretionary changes have been made in exemption levels and tax rates in various brackets, and inflation has been only one of a number of factors accounting for these changes. For instance, in April 1978, Quebec personal exemptions were raised from $1,600 to $3,600 for single individuals and from $2,400 to $2,700 for married persons. As of January 1980, a system of 'partial indexation' was inaugurated. However, the rate was to be a discretionary one set annually by government. In order for this not to appear as too obviously a public relations exercise, the rate had to be different from a rate that would exactly offset inflation. For revenue reasons, it has always conveniently turned out to be much lower.

The policy-motivated gaps between the provincial and federal PITs include a whole series of divergences that perhaps could be claimed to reflect, in some way, rather permanent social preferences that transcend political parties. Broadly speaking, these divergences have to do with tax treatment of the family.

In 1967, Quebec complemented the federal family allowances with its own system of family allowance on a progressive scale, graduated according to the number and ages of children in the family. At the same time, a divergence from the federal PIT act was introduced: there would no longer be exemptions for dependent children under the age of 16. In the early 70s, the issue of family allowances became the subject of heated debate between the Quebec and federal governments. The negotiations eventually led to an agreement whereby provincial variations in the federal allowances would be permitted for the first time. As part of the agreement, the Quebec government decided that it would not tax (either its own or federal) family allowance payments. The federal government had previously agreed that it would not tax provincial family allowances provided the province did not tax the federal allowances. The rationale for this provincial policy was that family allowances had been substituted for child exemptions since 1967 for reasons of vertical equity and that the new system should be exempt from tax for reasons of both horizontal and vertical equity. In the same spirit, when Quebec introduced a deductibility provision for child care expenses, it set the limit 50 per cent higher than the federal one.

In addition to divergences of a relatively permanent nature reflecting perhaps profound social preferences, there have arisen purposeful divergences designed to project and implement the political commitments of the

party holding office at the time.

In coming into office in 1976, the Parti Québécois was anxious to convey an image of social democracy, which can perhaps be translated in fiscal terms as favouring a more progressively distributed tax burden. It was also concerned about channelling domestic savings into capital investment within the province. As was previously described, it refrained from introducing indexation of the PIT for much the same reasons as the preceding government had done. However, because of the lack of indexation and because of 'progressive' changes in tax rates in the 1978 budget, the tax rates in the province, combined with the federal rates, made Quebec taxpayers earning $15,000 or more the highest taxed individuals in Canada. Complaints from professionals and executives about their fiscal positions became so acute that in the 1979 budget the government introduced what has come to be known as the 'Parizeau plan'. This measure allows an individual who is a resident of Quebec to deduct up to $15,000 in computing his taxable income for Quebec purposes with respect to certain stocks purchased of Quebec companies which are included in the plan. The deduction is limited to either $15,000 or 20 per cent of earned income, minus the taxpayers' deductible contributions in the year to his RPP, RRSP, and RHOSP. The company offering the stock must have its head office in Quebec; alternatively, during the last taxation year before the date of the last prospectus, it must have paid more than 50 per cent of its salaries and wages to employees employed in a place of business situated in Quebec. The shares themselves must be new common shares, with voting rights, bought on the primary market.

This measure, introduced as a special incentive for investment in Quebec companies, as was clearly stated in the budget address of 1979-80, was meant to defuse a 'revolt of the rich' that was triggered by the previous year's income redistribution reform. The government hoped that this would pacify those who were complaining that the reforms were driving corporate executives out of the province.

From coordination to competition

From 1967 to 1972, there were almost continuous federal-provincial consultations on tax reform at both the ministerial and official levels. These were the years in which Canadian governments had to react to the Carter Commission report and decide on tax reforms. Most changes in the federal

and Quebec PIT acts were made in parallel, with the major exception of indexation.

However, since then, and especially since the change of government in Quebec in 1976, there appear to have been an increasing number of instances in which a common realization of a tax avoidance problem has led to divergent responses. Until a few years ago, purposeful divergences (as opposed to 'nuisance gaps' resulting from inertia and delays in making parallel amendments) appeared always to have been motivated by differences in policy objectives. More recently, similar or even identical policy objectives have led to technical divergences in the means used to correct those problems: these cases represent stances in which the extra cost of taxpayers' compliance cannot be offset by the 'benefits' derived from the achievements by each government of preferred objectives. Several of the divergences in question are discussed below.

In December 1977, the minister of finance, Jacques Parizeau, announced several major changes in the Quebec Taxation Act, as compared with the federal act. It was made clear that the new government would not be following a strict policy of tax harmonization. Major departures were announced with regard to (1) RHOSPs, (2) the $1,000 interest deduction, (3) the federal stock option plan in private Canadian corporations, and (4) employee loans.

1. Both the federal and Quebec governments had been concerned about potential abuses of amounts invested in the Registered Homeowner's Savings Plan. However, each adopted a different solution to one of the perceived problems.

   The governments were concerned about the possibility of a taxpayer using the funds in order to purchase the owner-occupied home of his spouse. The federal government closed off this possibility by adopting an amendment which prevents a taxpayer from deducting future contributions to an RHOSP where his spouse owns an owner-occupied home. In contrast, Quebec was content to adopt the provision that there would be tax consequences if a taxpayer used the funds to acquire his home from his spouse as of April 12, 1977.

   It is not self-evident why Quebec adopted this amendment. However, with regard to the other federal reforms dealing with RHOSPs, Quebec announced it would follow the federal lead.

2. Both governments were also concerned about potential abuses of the $1,000 interest deduction that had been introduced by the federal government in 1974 and adopted in Quebec. It was feared that taxpayers would use the provision not, as intended, to compensate for the effect of inflation on investment income, but to artifically avoid taxes by borrowing money for that purpose alone. Ottawa responded by introducing a limitation rule, whereas Quebec introduced a netting-out provision. Hence, the rules in this regard were different.

   Furthermore, Ottawa decided to include capital gains in the $1,000 interest and dividend exemption, whereas Quebec declined to do so. Also, the Quebec government completely eliminated the deduction for taxpayers whose business income exceeds 25 per cent of their total income. It is not clear why these departures from the federal provisions were adopted.

3. The most noteworthy of the gaps created in 1977 resulted from Quebec's failure to follow Ottawa's lead in exempting employees' stock option benefits from tax at the time of exercise. The federal measure was designed to encourage investment by employees in private Canadian-controlled corporations. It is not at all clear why Quebec decided against adopting this measure.

4. The federal government had adopted a measure whereby free or low-interest loans by employers to employees were to be included in income. Quebec announced that it would enact a similar rule to come into effect a year earlier, but it would not adopt the federal exceptions from the rule, that is, the exemption of a housing loan up to $50,000 and the exclusion of the first $500 from employee benefits. Again, it is not clear why Quebec did not adopt these exemptions.

In April 1978, Quebec introduced numerous changes with regard to automobile expenses. Specifically, an individual using a car for both business and personal purposes would not be able to deduct the cost of licence plates and insurance premiums, a driver's permit, or parking. In addition, the minimum operating costs for personal use were deemed to be $75/month. Also, limits were placed on the capital cost allowance. No similar federal restrictions were introduced at that time. With regard to

automobile standby charges that employees must include in income, the province set a minimum of 2 per cent per month of the capital cost of the vehicle or, alternatively, two-thirds of the rental cost. In contrast, the federal provisions set a minimum of 1 per cent of the capital cost or one-third of the rental cost. It is clear that the provincial changes were introduced in order to increase revenue.

In 1979, other measures were introduced that were at variance with the federal PIT:

1. The maximum deduction for 1979 and subsequent taxation years for contributions to Registered Retirement Savings Plans for individuals and employers was increased to $5,500 from $3,500 for both current and past service contributions (the federal limit is $3,500).

2. Individuals having a business income of more than 25 per cent of total income were entitled as of 1979 to the $1,000 exemption for dividends and interest denied in 1978.

In the 1980 budget, Quebec introduced a measure with regard to the taxation of low interest loans to employees, whereby the benefit would be calculated differently depending on when the loan was made. For example, if the loan was made after 1973, the benefit is to be calculated by reference to an annual rate of 8 per cent, whereas if it was made after 1980, the rate of reference is to be 11 per cent.

Perhaps in part sensing that these cumulative divergences were beginning to prove a major problem for tax compliance and perhaps also because the November 12, 1981 federal budget appeared to move in the directions that Quebec had already chosen for itself, the Quebec finance minister stated in May 1982:

> On the whole, however, we are attempting, fairly successfully, to avoid any appearance of a tax jungle for which the taxpayers would have to pick up the tab. Because of the delay in tabling of the federal legislation, I am taking advantage of the budget speech to announce that Quebec's tax laws and regulations will be amended to better align federal and Quebec tax bases, and that these concordance measures will be applicable on the same dates as they are for federal income tax purposes. (Budget speech, May 25, 1982.)

In all the above instances, differences between the technical solutions worked out by Quebec and by the federal tax authorities do not neces-

sarily derive their significance from the assumption that such disparities will be permanent. Indeed, there are several suggestions that Ottawa has been seriously considering the introduction of some of Quebec's innovations. On the other hand, these discrepancies have nothing to do with the leads and lags sometimes also observed in tax administration, where one of the taxing authorities precedes the other in the recognition of a tax avoidance problem and in implementing a remedy. What is significant is that both tax authorities appear to recognize a problem more or less simultaneously, and that both, also at roughly the same time, implement different remedies. Instead of a collaborative approach, which would entail consultation and parallel implementation of the same remedy, the two tax authorities seem to have engaged in competition.

Whatever the merits or demerits of the November 12, 1981 federal budget and the Quebec tax policy moves of the last few years, this 'follow the leader' approach to tax harmonization is surely not ideal from the taxpayers' viewpoint. It almost guarantees that there will always be some divergence, although specific divergences may be temporary. Admittedly, the problem is no more or less severe when the provincial government leads than when it follows: it only shows where at any one time the most fertile fiscal creativity (?) is to be found.

The argument can perhaps be made that provincial initiatives of the kind that Quebec has undertaken in the past few years provide a useful test for new and untried tax measures, which, if successful, may later be introduced by other jurisdictions. Restricting such 'experiments' to one province at a time certainly has some advantages for both Canadian taxpayers and governments.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. In the Canadian context, constitutional doctrine was of no help to Quebec in setting up its own PIT. Although it had constitutional law on its side in its dispute with Ottawa over taxing powers, Quebec could not make effective use of this doctrinal advantage. First of all, the right of any province to levy a PIT was never denied by Ottawa. Indeed, the very existence of tax rental agreements since 1940 was evidence of this recognition in principle of the province's right to levy a PIT among other taxes. What Quebec wanted was not to levy a PIT fully independent from the federal PIT, but to obtain a re-

duction in the PIT yield of the federal government equivalent to the proceeds of its own PIT. In trying to obtain this rollback of the federal tax, the constitution was of no use. This did not necessarily have to be so. One can speculate that, had Canada's Supreme Court followed the American tradition of legal interpretation, it might have been possible for Quebec to contemplate a judicial settlement: if a province had a constitutional right to tax, it also had a right to exercise that power without inflicting on its citizens de facto discrimination by refusing to 'rent' the use of that power to the federal government without a compensating reduction of the federal tax bite in that province, equivalent to the transfers to other provinces for the exclusive federal use of this particular tax. However, it is well known that the Canadian Supreme Court has always had a more restrained vision of its role than its American counterpart, and that the possibility of court action was moot.

Even today, with the newly amended Canadian constitution, it remains uncertain what reading the Supreme Court would render. The wording used in the section of the new constitution dealing with equalization suggests that it is directed to instances of opting-out from shared-cost spending programs rather than to taxation.

2. A major new tax can be introduced with success (i.e., be accepted as legitimate, however grudgingly) only if public opinion at the same time strongly supports public expenditures which are thought to be narrowly linked with the new tax. Although the Quebec government consistently maintained its position of unequivocal opposition to exclusive federal occupation of the direct taxation field from 1945 onwards, it made absolutely no progress for several years. Not only were the federal-provincial fiscal arrangements, initiated in wartime, renewed in 1947, but the negotiations leading up to the 1952 arrangements saw Quebec's objections ignored by Ottawa and Quebec found itself totally isolated at the end of the process.

However, as soon as the federal government widened its centralizing offensive from the tax side to include the expenditure side, things began to change. With the Massey Commission and federal grants to universities, Ottawa began to play a role in a field of unambiguous provincial concern: in other words, it was admitting that its exclusive use of some taxing powers was in part explained by

its decision to spend money for provincial purposes. Not only was its refusal to share tax powers henceforth deprived of its justification, but the spending area in question was both one that made the federal presence in Quebec very hard to justify and one that attracted considerable, even passionate, interest.

Had the federal government continued, in the early fifties, to spend only for its own purposes, the provincial PIT would probably never have seen light of day, since it was by no means likely that the Quebec government could have obtained an offset for its tax from the federal government.

For these reasons, it is probably not inaccurate to describe the Quebec PIT as an unexpected and unwanted consequence of the Massey Commission's efforts to define and defend the Canadian culture! At any rate, it should be clear that the Quebec PIT was a defensive reaction to the federal initiative and not a forerunner of some separatist drive.

3. The power to modify the provincial PIT will be used to the fullest extent. In the revenue structure of any modern government, the PIT assumes a very major importance. It is reputed to be the most equitable tax and it is the most income-elastic broad-based tax, and these characteristics are not lost on governments in search of additional revenue. In Quebec, in the mid-1960s, the Provincial Commission of Inquiry on Taxation recommended a more intensive use of the PIT in preference to other taxes. Changes in the provincial PIT will not be limited to changes in tax rates, tax credits, or personal exemptions: they will touch on all aspects of the tax structure, including the definition of income for tax purposes. Government will also use the PIT to implement various policies through incentives of one kind or another. All this will be a constant source of disparity between the federal PIT and its provincial counterpart. The importance of such disparities will of course vary from one instance to another and many may only be temporary. However, the point remains: the power will not go unused.

4. Provincial tax administration implies that over time provincial revenue officials will develop their own approaches, methods, and traditions which will add to the political and financial factors making for federal-

provincial divergences in PIT. In any government, officials provide a significant input into legal drafting. But nowhere is this more important than in the case of tax laws, in respect of which legislators usually have an understandable awe. The resulting divergences are of greater consequence in increasing compliance costs than most other divergences because they often have a direct impact on accounting rules for tax purposes.

For those divergences to emerge, one need not assume that officials are a priori opposed to tax harmonization. On the contrary, tax officials will often actively seek parallelism in tax interpretation and administration; thus there are systematic exchanges of information on tax assessments and tax interpretations between Ontario and Quebec. However, differences in administrative time-tables, strongly held opinions, etc. will, over time, take their toll.

5. Tax harmonization has a lower order of priority than almost any other objective that moulds a provincial PIT. Sometimes, problems of taxpayer compliance brought about by widening divergences will push governments into greater parallelism in their tax laws. This is remedial rather than preventive action. A government will sometimes find it convenient to abrogate features of the PIT brought in by a preceding government, especially if it is of a different persuasion. What is a change in policy may be labelled 'harmonization' to minimize controversy. However, it should be apparent that, in the absence of any institutional mechanism working towards harmonization, references to harmonization express pious wishes rather than policy objectives.

PART II

Direct Costs of a Separate Ontario Personal Income Tax

4
Administrative costs[1]

OPERATION OF A PERSONAL INCOME TAX SYSTEM

Operation of a personal income tax system by a government involves more than administration in its narrow sense. The appropriate tax policy must be struck through analyses by public servants, consideration of representations from the public, and discussion and decision by political leaders. Furthermore, before the administrative apparatus can take over, these policy decisions must be turned into rigorous legislative language and general explanatory material communicating the decisions of the government and the legislature.

The administrative process has the arduous task of turning legislated decisions into rules which can be applied to millions of individuals in a myriad of different circumstances to determine what is viewed as each person's appropriate share of the personal income tax burden. Regulations must be drafted, forms issued, explanatory material printed, returns processed, money collected, and so on.

Such requirements would not be onerous if the personal income tax were a flat rate of 2 per cent and only affected 2 per cent of the population, as was the case when it was introduced in the United States late in the last century. However, the personal income tax has evolved into one of the most complex fiscal tools in modern society. It is now the most important single source of tax revenue in industrialized countries. Top rates have been pushed to points where they are perceived to have

1 This chapter was drafted by A.E. John Thompson, who is national tax partner with Coopers & Lybrand, Chartered Accountants. See also Richard M. Bird, 'The Costs of Collecting Taxes: Preliminary Reflections on the Uses and Limits of Cost Studies', Canadian Tax Journal, Nov.-Dec. 1982.

deleterious effects on incentive and avoidance activities. Complicated networks of provisions have accumulated to meet social objectives under different personal circumstances, to influence investment behavior, and to support or discourage certain types of personal expenditure. These provisions continually change with evolving social mores and political objectives. As the state has developed welfare programs, these too have been tied in with provisions of the tax system.

THE CANADIAN CONTEXT

These characteristics of a modern, personal income tax system are as apparent in Canada as in any other industrialized country. For the federal government and most provincial governments, personal income tax provides the most important and fastest growing single source of tax revenue. The Canadian PIT system relies on self-assessment. The level of compliance is probably still relatively high, although it may well be declining in the face of the system's growing complexity. Despite the fact that the provinces receive about one-third of the total personal income tax revenue (in Quebec, about one-half), the PIT is primarily designed by the federal government and, under a collection agreement with nine of the provinces, administered by the federal government. (Quebec has had its own personal income tax system since 1954, but despite several significant differences, it is still patterned on the federal mould.) The federal collection agreement with the nine provinces followed from experience during the Second World War (see Chapter 1). The collection service is provided for no fee, except with respect to certain provincial tax credits for property taxes, sales tax, etc. that have been introduced in recent years (see Chapter 2). Tax is remitted to the provinces as it becomes receivable, with the federal government retaining interest penalties and bearing bad debts. A considerable amount of taxpayer information is provided to the agreeing provinces. Both levels of governments have numerous welfare programs which are partially integrated with the income tax system.

In considering the costs that could be faced by the Ontario government if it were to adopt its own PIT, it will be useful to start with the federal experience in operating the Canadian PIT system, since any Ontario system would presumably be similar. The consequences of adapting the federal experience to the Ontario situation can then be considered. Quebec's experience with its own personal income tax system, discussed

briefly below, is also a valuable guide.

ADMINISTRATION OF A PERSONAL INCOME TAX SYSTEM

The main features of government administration of a personal income tax system of the Canadian type can be readily obtained by looking at the federal government's experience with its system. In so doing, it is convenient to separate the various functions into two general categories: those which are 'mandatory programs' - ones which must be operated if one is to have a system at all; and 'non-mandatory' or 'enforcement programs' - those which can vary in degree depending upon the desired effectiveness of the system. While the division of particular functions between these two categories is blurred, the breakdown is useful in evaluating the cost of running a PIT. Because of the sheer volume of individual tax returns and the demands of a self-assessment system in a democracy, the costs of the mandatory programs are much more significant than the costs of the enforcement programs. The reverse is true under the corporate income tax system, where there are relatively fewer taxpayers (with less demand for mandatory programs), but more complexities (with greater scope for error and avoidance).

On the basis of federal experience, the various activities involved in operating a department for the collection of personal income tax revenue are set out below.

Mandatory programs

1. Forms, design, and distribution. Under a complicated personal income tax system that operates on a self-assessment basis, the importance of the design of forms, and of their timely distribution, cannot be over-emphasized.

2. Public enquiries. For those who prefer oral to written explanations, or cannot understand written explanations, the revenue department must be prepared to answer endless enquiries through district offices, telephone calls, and correspondence. The provision of appropriate facilities is important both politically and in terms of encouraging taxpayer compliance.

3. Operating procedures. These provide the basis for the whole operation of handling millions of returns, a process that includes the preparation of technical commentary for the two functions described above, the programming of computer systems, and the setting out of detailed procedures to be followed in processing returns, balancing employer remittances, etc. Federal procedures fill several operational manuals which in total (in both official languages) are reputed to occupy four and one-half feet of shelf space. To be effective, these procedures must of course be very detailed and under constant revision.

4. File maintenance. To facilitate enquiries, enforcement, and collection, a complete tax roll must be maintained, with supporting files for each individual taxpayer. The drawing and refiling of returns is necessary for assessing, audit, and collections, as well as for taxpayer-requested adjustments. This humdrum task is costly.

5. Employer remittances. Because the bulk of the personal income tax cash flow comes from employer deductions, continual control is essential. Even though this is basically a matter of mechanical bookkeeping, constant follow-up and annual auditing are found to be very valuable activities.

6. Revenue accounting and control. Again, a mechanical but voluminous task of keeping proper accounting and control of payments and tax assessments, and of calculating interest credits and penalties.

7. Initial processing of returns. Whether returns are assessed in detail or not, there have to be proper systems for prompt processing, with the issue of assessment notices, refund cheques, or bills.

8. Taxpayer-initiated reassessments. One of the surprising features of the PIT system is the volume of reassessments that arise at the request of the taxpayer - reputedly over one-half of the total volume of personal tax reassessments. Requests of the 'oh I forgot to tell you' sort have to be complied with if the system is to function, and therefore, in a rough way, at least one-half of the reassessment procedure can be regarded as mandatory.

9. Appeals. While perhaps not large in volume, these are demanding technically. Once an objection is filed by the taxpayer, the department must respond.

Enforcement programs

10. Collections. Collection actions begin with routine asssessment notices and follow-up letters from the computer, and later involve legal action in the form of a garnishee or a writ for seizure. While this program might be considered essential for any system that tries to collect money, the degree to which it is enforced is a matter of discretion.

11. Enforcement of filing. This is to ensure that taxpayers who are on the rolls keep filing and that those who are not commence filing.

12. Tax-collector-initiated reassessments. This includes initial assessing activity, and reassessments arising from a desk review and verification of items claimed, without an actual examination of taxpayer records.

13 Audit. This activity involves an actual examination of a taxpayer's books and records, especially where business operations are involved or the taxpayer is an officer of a corporation under review. Investigations for tax evasion are also under this program. This is probably the most variable of all the enforcement programs.

Overhead

14. Central policies, procedures, personnel, and administration. All of the activities or programs described above require a central group of personnel who design policies, procedures, and programs, and provide personnel and administrative support. This requirement could be considered proportionate to the size of the mandatory and enforcement programs.

REQUIREMENTS FOR AN ONTARIO PIT SYSTEM BASED ON FEDERAL EXPERIENCE

Personnel requirements

Officials of Revenue Canada - Taxation in Ottawa have provided a detailed estimate of the person years in their department which relate to Ontario individual taxpayers. Estimates for most activities are based on actual experience of personnel directly engaged in administering income tax applicable to Ontario individuals. Only with respect to certain activities - such as head office and operating procedures - has it been necessary to make pro-rated estimates. Consequently, the estimates provide good evidence of the share of person years devoted to collecting PIT revenues from Ontario residents, of which revenues every $3 is approximately $2 federal and $1 Ontario. The breakdown of these person years by the programs described above is set out in Table 4.1.

With some adaptation, these estimates should provide a realistic guide to the personnel requirements for an Ontario personal income tax system. Granted, there are difficulties in making this adaptation. The extent to which an Ontario PIT system would be modelled after the federal system cannot be forecast, although it is assumed that the general pattern would be similar. Some assumptions must also be made as to the degree to which Ontario would want to demonstrate that it had its own system by issuing complete sets of forms and the extent to which it would strive to maintain tax yields of about half the federal PIT revenue from the province. Nevertheless, some reasonable judgments can be made, and this has also been done in Table 4.1.

Some further comments should be made regarding the estimated Ontario requirements. For example, with respect to item 1, forms design and distribution, it is assumed that Ontario would produce tax return forms and explanatory documents which would be complete in themselves, even though many of the rules would duplicate those in the federal PIT system. Some slight reduction of cost would be achieved because the existence of federal forms would reduce the need for original design work. However, reductions in costs by deriving benefit from the federal lead would be limited because of the need to produce forms concurrently. Some simplification of Ontario forms and some further reduction in cost might be achieved if Ontario followed the same practice as in its corporate tax

TABLE 4.1
Person years required to administer personal income tax in Ontario

	Estimate of federal requirement for Ontario taxpayers[a]	Estimate of potential Ontario requirement
Mandatory programs		
1. Forms design and distribution	150 - 175	125 - 150
2. Public enquiries	325 - 350	275 - 300
3. Operating procedures[b]	175 - 200	150 - 175
4. File maintenance	425 - 450	400 - 425
5. Employer remittances	350 - 375	325 - 350
6. Revenue accounting & control	300 - 325	300 - 325
7. Initial processing of returns	725 - 750	700 - 725
8. Taxpayer-initiated reassessments	225 - 250	200 - 225
9. Appeals	175 - 200	100 - 125
	2850 - 3075	2575 - 2800
Enforcement programs		
10. Collections	325 - 350	300 - 325
11. Enforcement of filing	150 - 175	75 - 100[c]
12. Tax collector-initiated reassessments	225 - 250	100 - 125[c]
13. Audit	650 - 675	350 - 375[c]
	1350 - 1450	825 - 925
Overhead		
14. Central policies, procedures, personnel, and administration	400 - 425	375 - 400
Total person years	4600 - 4950	3775 - 4125

a Based on estimates supplied by officials of Revenue Canada - Taxation.
b For programming and operation of computer facilities, as well as production of manuals for all procedures required in dealing with personal returns.
c Assuming a reciprocal exchange of information between federal and Ontario tax authorities.

returns, where federal tax calculations and schedules are referred to wherever possible and the provincial variations are highlighted. However, with the higher political profile of the personal income tax, Ontario might still want forms that were complete in themselves.

With respect to item 2, public enquiries, it seems safe to assume that

there would be less need at the provincial level to explain features of a system that was mainly patterned after the federal system. However, any significant reduction seems unlikely. Experience in Quebec indicates that taxpayers will ask both provincial and federal offices the same question, to see if the answers are similar!

With respect to item 3, Ontario might very well have to produce its own complete set of operating procedures. The federal manuals are internal documents and might not be made available to a provincial government. Furthermore, even if there were full cooperation, the federal instructions would in many respects likely be based on different operating procedures. The need for constant and quick revision would also make any exchange arrangement very difficult.

The other mandatory programs would seem to incur very similar costs except for a slight reduction because there would be fewer dollars of tax revenue at stake. Item 9, appeals, could be lower in personnel requirements, since the provincial department could await the outcome of federal appeals on the same issues.

The main scope for a relative reduction in provincial personnel requirements would lie in the enforcement programs. Accordingly, a significant reduction is estimated in relation to enforcement of filing, tax-collector-initiated reassessments, and auditing. It would be unsafe, however, to assume a more drastic reduction, since the federal government might be unwilling to exchange reassessments and filing-enforcement experience with a provincial government unless the provincial government had a reasonable enforcement program of its own. Furthermore, enforcement of particular Ontario variations in the income tax system could require additional personnel. Collection procedures would have to be fully maintained, and they might even be competitive with the federal procedures.[2]

Central personnel requirements are assumed to be slightly lower on the basis that there is relatively less tax revenue involved, and that some personnel are already available with respect to the Ontario corporate income tax. Nevertheless, it would seem unwise to estimate a more drastic reduction of the Ontario level, since the start-up of the system could require a lot of central planning; moreover, overhead costs may be rela-

2 The Ontario Ministry of Revenue has a more optimistic view of the possibilities of cooperation with federal officials with respect to an Ontario PIT. See note 3 below.

tively lower in the larger federal tax system.

In summary, it is estimated that the personnel requirements for an Ontario personal income tax system would only be some 15 per cent less than the personnel presently used by the federal government in relation to the same Ontario taxpayers. This duplication of something like 4,000 persons would stem from the fact that the operation of a personal income tax system in Canada mainly requires programs that are basically essential to the system and that could not be significantly reduced even if the Ontario system were patterned closely after the federal system. Furthermore, a new bureaucracy of such magnitude would take on its own life and growth.

Overall costs based on federal experience

The main costs of a separate Ontario personal income tax system can be derived from the above estimate of personnel requirements, and from other federal experience. A brief summary of the main components would be as follows:

		$
Personnel	- 4,000 person years @ say $22,000 each	88,000,000
Space for personnel at various locations	- say 1,500 employees @ 100 square feet each @ $15 per square foot	2,000,000
Computers, say		5,000,000
Forms		13,000,000
Transportation and other, say		12,000,000
		120,000,000

The balance of the 4,000 personnel would be located in, say, a data centre. On the basis of federal experience, such a data centre would have a capital cost on the order of $60 million.

QUEBEC'S EXPERIENCE WITH A SEPARATE PIT SYSTEM

Quebec's experience with its PIT system provides another realistic guide to the potential costs of an Ontario system. The Quebec system is well established, having been in effect since 1954. Although the law is drafted

separately, it is generally patterned after the federal system. Nevertheless, as will be discussed in Chapter 5, which deals with compliance costs, there are numerous differences between the Quebec and the federal systems, and it cannot be assumed that the differences under a separate Ontario system would be fewer than - or the same as - the Quebec variations on the federal theme. However, the Quebec experience points to the order of magnitude that would be involved.

Due to the smaller scale of operations, the costs of different functions are not as clearly identified in Quebec as they are in the case of the federal PIT, and it was not possible for Quebec officials to readily identify separately the costs of operating the provincial PIT system as such. The Quebec revenue department has three main operations - corporate and personal income taxes and succession duties, sales and excise taxes, and rights and permits. It also issues transfer payments under welfare programs. No separate accounting is maintained by these separate functions, but some rough estimates can be made.

For the fiscal period 1980-81, the total costs incurred in the Quebec revenue department were as follows:

	$	$
Personnel costs		
Employees	97,000,000	
Outside professional and administrative services	2,000,000	
		99,000,000
Other operating costs		
Travelling	8,000,000	
Rent	3,000,000	
Furniture and equipment	6,000,000	
Other	6,000,000	
		23,000,000
Total personnel and operating costs		122,000,000
Other costs		
Compensation to vendors	18,000,000	
Transfer payments	25,000,000	
Interest on tax refunds	25,000,000	
		68,000,000
		190,000,000
Less interest penalties		
Personal income tax	50,000,000	
Other	40,000,000	
		90,000,000
Total		100,000,000

It may be roughly estimated that two-thirds of the department's total costs relate to income taxes and succession duties, and of that two-thirds, 70 per cent relates to the personal income tax system. In other words, 47 per cent could apply to the PIT system. This indicates that the personnel services involved in the Quebec PIT system (whether provided by employees or by outside personnel) could cost about $47 million annually, and that the total costs related to personal income tax could be $57 million annually. Conversion to the Ontario situation, where more than half again the number of individual taxpayers is involved, could indicate comparable estimates for Ontario on the order of $70 million and $85 million respectively. This is less than the estimates made above on the basis of federal experience. It may also be noted that the entire Quebec revenue department, which has three main operations, employs about 4,600 full- and part-time staff.

INTANGIBLE COSTS OF A SEPARATE ONTARIO SYSTEM

In addition to the tangible costs estimated above, there would be intangible costs of a separate system that should at least be put on record.

A separate system would involve further uncertainty and delays in the implementation of tax changes. Experience with federal budgets in recent years has been particularly bad, with proposals hanging in the balance for a year and with taxpayers, tax returns, and assessments in a state of uncertainty in the meantime. While the same types of delays might not occur in a provincial legislature, a separate system would nevertheless be inclined to result in more changes and more delays. The result would be an added inefficiency in the governmental process, with a real but immeasurable cost.

From the government's standpoint there would also be a cost in terms of political dissatisfaction. In any discussion of the implications of a separate Ontario personal tax system, the unanimous unsolicited reaction is unfavourable and unprintable. While this feeling might subside once such a system were operating, it would still be present and the whole process would then be irreversible.

OTHER COST COMPARISONS WITH PRESENT ARRANGEMENTS

If Ontario were to adopt its own personal income tax system, it would take

on the bad debts for taxes owing, but pick up its share of interest penalties and possibly reduce the cost of administering its welfare programs.

Under the present collection agreements, the federal government pays the provinces as the taxes become receivable and bears the cost of bad debts itself. At present, the Ontario share of taxes outstanding for more than two years is on the order of $35 million, and of taxes overdue for less than two years $42 million. The breakdown of interest penalties cannot be readily determined, although Quebec experience suggests that the net interest income could offset the bad debts.

A cost reduction argument for Ontario having its own PIT system is that it would be possible to integrate the system with welfare programs. However, this possibility would have to be examined in considerable detail before any significant saving could be realistically projected. The experience of federal officials is that there is difficulty in integrating the two. Welfare payments are usually made currently, whereas income tax figures are a year old. Income tax data can be used for verifying welfare claims, but this data is already available to the province from federal computer tapes.

Assumption by Ontario of its own personal income tax would reduce the burden of administration on the federal government, and possibly reduce its cost. Discussion with senior federal officials, however, indicates that the saving would be immeasurable and probably quite small.[3] Presumably some degree of saving should emerge over time, if only because the volume of tax dollars being collected in Ontario would be reduced by one-third. However, dealing with Ontario's share of PIT revenues is only a part (albeit a major one) of the overall federal income tax system, and the ongoing momentum of an existing administrative system that is not overstaffed would delay any reductions.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. The general conclusions arising from the foregoing analysis of costs of administering a separate Ontario personal income tax system are abundantly clear, given the assumptions set forth at the beginning of

3 See the letter from Deputy Minister Bruce A. MacDonald of Revenue Canada - Taxation in Appendix 4A.

the chapter. Because of the nature of the present Canadian personal income tax, the system would require a duplication of most of the administrative machinery that is already being used by the federal government in collecting the same tax from the same taxpayers. The cost of this additional Ontario administration would be on the order of $75-100 million annually, aside from start-up costs and a capital investment in buildings of some $60 million.[4] There would be no noticeable decline in the costs of administering the federal personal income tax system. Administrative costs are therefore estimated to be about 45 per cent of compliance costs (see Chapter 5), if we compare the mid-points of the two ranges.

2. Ontario's PIT revenues in 1981 were $4,573 million. The mid-range of estimated administrative costs would therefore be about 1.9 per cent of Ontario PIT revenues.

3. The additional costs of collecting an Ontario PIT, including compliance and administrative costs, are estimated to be between $180 and $385 million.

4 An earlier draft of this chapter was provided to Terry Russell, Deputy Minister of the Ontario Ministry of Revenue, with a request for comment. His reply, together with some supporting material, is reproduced in Appendix 4A. The essence of this reply is that the ministry officials are of the view that, because of anticipated federal cooperation and the selection of the most up-to-date administrative system, the direct cost to the government of Ontario would be somewhat lower than the estimated range given here.

Appendix 4A
Documents

Revenue Canada
Taxation

Deputy Minister

Revenu Canada
Impôt

Sous-ministre

July 21, 1982

Mr. Douglas G. Hartle
Consultant
Ontario Economic Council
81 Wellesley Street East
Toronto, Ontario
M4Y 1H6

Dear Mr. Hartle:

I am writing in reply to your letter of July 8 in which you ask for my views as to the administrative savings at the federal level if the Province of Ontario were to operate its own personal income tax system.

The saving in the actual processing of returns would be quite small, and all the saving would relate to the provincial tax credits. Only one data field has to be captured from the return itself solely for provincial purposes, and this field is the one on which the taxpayer enters his claim for provincial tax credits. In 1980, there were about 5.5 million Ontario returns and claims for these tax credits appeared on 2 million -- 36 percent of the total.

There are over 70 data fields which may be captured from a return, although not all of them are filled in on any single return. Since the provincial tax is set as a percentage of basic federal tax, the determination of the federal tax is just one of a host of calculations to be made by the computer on each return.

Up to five data fields have to be captured from the provincial tax credit schedule itself.

Some portion of the 2 million returns referred to above are filed solely for the purpose of claiming the provincial tax credits, but we do not have a count of how many there are. There would then be a reduction in the number of returns to be processed at the federal level. These are the simplest of all returns to process.

Ottawa
K1A 0L8

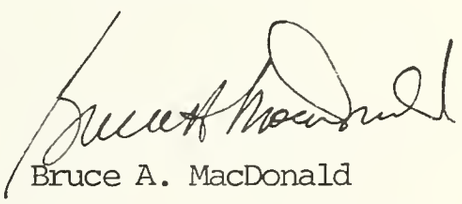
Ottawa
K1A 0L8

The tax collection agreements require us to do an audit of a small sample (two percent) of all claims for the tax credits to measure compliance. The audit consists of requests to the sampled claimants to supply receipts showing rents or municipal property tax claimed. The elimination of these audits would also bring about a small reduction in our administrative costs. There could just possibly be some small reduction in inquiries from the public to our District Offices where the purpose of the inquiry relates solely to the provincial tax credits.

There would be a small savings in paper costs, since it would not be necessary to include in the return package the schedule on which the taxpayers make a claim for the provincial credits. It is, however, just one of a number of schedules required for a variety of purposes.

I regret I am unable to give you a measure of possible administrative savings in either dollar or person-year terms because the processing of the provincial portion of the joint return is so integrated with that for the federal portion as to render impossible a distribution of costs between the two.

Yours sincerely,



Bruce A. MacDonald

Ontario

Office of the
Deputy Minister

Ministry
of
Revenue

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77 Bloor Street West
Toronto, Ontario
M7A 1X8
416/965-2996

November 26, 1982

Mr. Douglas G. Hartle
Consultant
Ontario Economic Council
81 Wellesley Street East
Toronto, Ontario
M4Y 1H6

Dear Doug:

In response to your request of November 2, 1982, I have reviewed the draft chapters on the costs of a personal tax system.

I would like to take this opportunity to compliment you on the quality of the information presented. I have no particular reason to disagree either with the ideas expressed or the administrative cost figures. As I am sure you now realize it would be a significant undertaking for the Ministry of Revenue to generate detailed administrative cost estimates. So far, there has been insufficient reason to carry out this exercise. However, some rough estimates were prepared a year ago and I will refer to these later.

With respect to your concern about developing a range of probable costs, I am of the opinion that your estimate (based on the federal experience) is at the high end of the range. I base this view on the following points.

i) Ontario should be able to economize on costs through process design improvements, based on advances in other taxes we administer and federal operating experience. In particular, we think significant efficiencies can be gained through the exploitation of the latest in EDP and other systems technology.

ii) Studies have shown that the Ontario tax systems are generally more efficient than in other jurisdictions. This appears to be largely due to the size and stability of our tax base.

iii) Your report appears to assume that Ontario would not have full access to federal operating information and assessments, etc. Our experience with Ontario's corporation tax is that there is little problem in obtaining such cooperation because there are significant benefits to both sides. Consequently, an assumption of full federal cooperation would provide operating flexibility in a number of functions, particularly in assessment and compliance activities.

iv) There is a range of options available with regard to the complexity of tax return forms. The factors that influence the choice are well represented in your report. Your cost estimates are based on a return that is as complicated as the federal return. I believe that, in reality, as with the corporate tax return, the forms could be simplified considerably.

I am enclosing a copy of a report prepared by my staff in January of this year. The report contains three alternative estimates with respect to administrative costs. You will note that our man-year requirement in Estimate 1 of 3764 falls near your range of 3775-4125, but our start-up costs differ substantially. However, your draft does not contain enough detail for us to comment on the difference.

Operating costs are variously estimated from $56.1 M per annum to $116.3 M per year. The range was developed from two different sources of published material on Revenue Canada and one set of material on Quebec, using the cost figures for 1979-81 fiscal periods. Between 1,800 and 3,800 man-years would be necessary to operate the systems.

Another important factor is that the lead time for establishing a tax system of this complexity and magnitude is conservatively estimated at three years.

I also wish to stress that the figures in the attached report should only be treated as very rough estimates. However, they may be useful to you in assessing the validity of your own figures.

In summary, our own triangulations tend to support Mr. Thompson's estimates except that we come in at the low end of his range of costs. However, I suppose that, at this point, these differences are not of great significance. The main point is that the establishment of an Ontario Personal Income Tax would undoubtedly require the commitment of considerable resources by the government, and would be a major undertaking by this Ministry.

Also, the question of costs would have to be evaluated in context with larger questions concerning the government's purpose for establishing a PIT, and the consequent design of the system. I note from the material you have sent me that you are indeed giving considerable attention to these issues, as well as the impact on taxpayers.

You did not mention in your letter whether you intended to use any of our information or comments in your report. If you do, I would ask that you let me know in the ordinary way.

In the meantime, please let me know if we can be of any further assistance, particularly if you wish to discuss the details of our rough estimates.

Yours truly,

Terry

T.M. Russell
Deputy Minister

Enclosure

cc: A.E. John Thompson
Coopers and Lybrand

PERSONAL INCOME TAX IN ONTARIO: SOME THOUGHTS AND ESTIMATES OF COST

A. At a meeting of Finance Ministers in December, 1981, the Ontario Treasurer raised the possibility of Ontario administering its own personal income tax system. The following material provides some rough and ready preliminary estimates of the possible orders of magnitude of administrative costs involved. As such, they should be used with great caution. Clearly, before reliable estimates could be produced, and used as a basis for policy review and operational planning, much more thorough analyses and staff work would be required. Also, such work could only be undertaken after clarification of fundamental questions concerning the policy design and objectives of the tax, all of which have great bearing on the operational structure and costs of the system to be established.

B. Comments on the Nature of the System:

- It is assumed the Ontario PIT system will be almost identical to the current federal system, at least during the introductory period. For example, employers will issue "T4's", individuals will file returns. This is the situation in Quebec where indeed the forms used are identical to the federal forms (for use by employers in their mechanized systems). Quebec's forms even are designated with similar numbers, for example TP4.

- Data on Income Taxation

No. of annual individual returns	-	5,700,000
Millions of dollars Ontario PIT for 81-82	-	$4,380 million
No. of employers withholding Ontario's PIT	-	280,000
No. of remittances from employers annually	-	3,360,000

- Brief Overview of Possible Administrative System

  Administration of the Ontario Personal Income Tax would require the following components:

  ° Employee withholding,
  ° Individual instalments,
  ° Other incomes (T5, T3, T4A etc.)
  ° Individual taxpayers.

  Each of these components would run on a different time cycle and use a different roll, although an integrated base would be designed.

  Employee Withholding Component

  Administers the collection and remittance of withheld taxes. Forms required:

  ° Employers Remittance Form,
  ° Deductions tables,
  ° Withholding Summary and Supplementary.

Individual Instalments Component

Quarterly remittance forms for those whose earned income is from sources other than salaries where a withholding tax is not deducted (e.g., self-employed).

Other Income Component

This is income to be taxed from all sources other than those reported by employers (e.g., superannuation, interest, dividends, etc.). The individual master file would be updated from data received from the payors (banks, trust companies, pension funds, etc.).

Individual Taxpayers Component

Administers the tax and information collection of approximately 5,700,000 Ontario taxpayers. Forms required:

- ° Tax return with schedules applicable to the Ontario return,
- ° Assessment Notices,
- ° Re-assessment Notices,
- ° Notices of Objection,
- ° Notices of Appeal.

- Any information sharing with the federal government would greatly assist the design and creation of the computer system and the continuing monitoring of compliance. A critical item will be the taxroll of employers, in effect the starting point for a PIT system.

- At present, no actual fee is paid to the federal government for collecting provincial income tax. There is a cost in the loss of use of funds forwarded by the federal government to the province.

- There is an effective charge of 1% of Ontario Tax Credits processed which Ontario pays the federal government for the Tax Credit program.

C. Potential Advantages and Disadvantages of Ontario administering Personal Income Tax

Advantages	Disadvantages
° Flexibility in designing a tax, which would serve best the interest of Ontario.	° Adverse reaction on the part of of employers and individual taxpayers, who will consider it as a wasteful duplication of the federal system increasing their cost of operation.
° the determination of an Ontario tax base in accordance with goals set by Government policy.	
° specific treatment of certain types of income (e.g., investment income).	° Substantial lead time (minimum 3 years) required to implement the program.

Advantages	Disadvantages
° determining types of exemptions and their amounts.	° Substantial development costs involved.
° potential for simpler system (e.g., forms).	° Cost of operating the program.
° integration of the Ontario tax credit system.	° "Balkanization" of the tax system; hence less fiscal policy co-ordination in undertaking federal and provincial measures to modify or stimulate economic trends.
	° Confusion among taxpayers not able to discern the differences in the federal and provincial tax systems.
	° Substantial publicity program required to familiarize Ontario taxpayers with the new system.

D. Estimates of Costs

Estimate #1

Start-up $31.5 - 36.5 million
Operating $116.3 million p.a.
3764 man-years

Start-up Cost Breakdown:

- Furniture & Equipment @ $1200 per staff person — $4.5 million
  3764 x 1200 = $4,516,800

- Computer Centre: It is understood the Government's existing computing facilities are at or near capacity. It is probable, therefore, that a new computer centre would be required. A recent estimate to replace the Downsview and Leaside facilities, with room for expansion and operating expenses for one year was $26 million. Although it is very difficult to estimate the size of facility required, an estimate for land, building and equipment might be $15-20 million. — $15-20 million

  It must also be noted that at least 18 months would be required to bring the facility to operation. This assumes no tendering and no delays.

- Taxpayer Education — $2 million

- Software Design — $10 million

This will be a major expense, both in time and money. Software design will be the most critical element for ensuring successful administration of the tax. A proposed strategy would be the investment of sufficient resources to create an efficient, flexible, and powerful data base.

Total start-up costs - $31.5 million to $36.5 million

Operating Cost Breakdown:

This estimate is derived from the Estimates for Revenue Canada Taxation. Various adjustments were made to extract data relevant to tax administration in Ontario. A breakdown by activity is given for Ontario.

Activity	# Employees	$ Million
Returns Processing	2,511	64.0
Enforcement	745	19.9
Appeals	154	4.2
Administration	354	12.0
Contribution to Employee Benefit Plans	-	10.6
	3,764	$110.7
Accommodation of Staff @ $1500 per person		5.6
		$116.3

Estimate #2 — Start-up $29.2 to $34.2 million; Operating $56.1 million p.a., 1800 man-years

Start-up Breakdown:

- Furniture and Equipment @ $1200 per staff person 1800 x 1200 = $2,160,000 — $2.2 million
- Computer Centre - as above — $15.20 million
- Taxpayer Education - as above — $2 million
- Software Design - as above — $10 million

Total Start-up Costs - $29.2 million to $34.2 million

Operating Cost Breakdown:

This estimate is derived using an estimated unit cost of $1.22 for every $100 tax collected in 81-82 by Revenue Canada Taxation. This unit cost is applied to the estimate for Ontario Personal Income Tax for 81-82, $4,380 million, net of Ontario Tax Credits.

$4,380 million x .0122 = $53.4 million	$53.4 million
Added to this is a cost of $1500 per staff person	
($1500 x 1800 = $2.7 million)	2.7 million
Total Operating Cost	$56.1 million

Estimate #3	Start-up	$29.8 to $34.8 million
	Operating	$70.5 million p.a.
		2350 man-years

Start-up Cost Breakdown

- Furniture and Equipment @ $1200 per staff person 2350 x 1200 = $2.8 million — $2.8 million
- Computer Centre - as above — $15.20 million
- Taxpayer Education - as above — $2 million
- Software Design - as above — $10 million

Total Start-up Costs — $29.8 to $34.8 million

Operating Cost Breakdown:

This estimate is derived using an estimated cost of $1.61 for every $100 tax collected in 81-82 by the Ministry of Revenue in Quebec. This unit cost is applied to the estimate for Ontario Personal Income Tax for 81-82, $4,380 million, net of Ontario Tax Credit.

4380 x .0161 = $70.5 million — $70.5 million

The Quebec Estimates include costs for renting accommodation and therefore no additional cost per person is given.

E. Previous Study

Material from a 1969 study of this same issue was reviewed quickly. Given the considerable time which has passed and the unknown nature of today's proposal, no hard data was extracted for this briefing material.

F. Concluding Comment

The cost estimates, rough as they are, do give an indication of the complexity of the issue. Without having a reasonably well-defined administrative system which takes account of the design of the tax, the design of the computer system, centralization or decentralization of offices and a myriad of other elements, a bottom-up cost development exercise is a futile effort.

Similarly, an estimate of time required can be little more than a guess, but three years seems a reasonable time for having an operating Personal Income Tax System following the start date.

5
Taxpayer and employer compliance costs[1]

Given a separate Ontario personal income tax system, additional compliance costs would arise both for individuals resident in the province and for Ontario employers deducting tax at source for their employees. Some costs would be direct out-of-pocket costs, such as those incurred by employers and by individuals who engage professionals to complete their tax returns or assist in planning their affairs in order to minimize their tax liabilities. There would also be significant opportunity costs, especially for those individuals who struggle to do their own tax planning and complete their own returns - processes that involve gathering together the requisite receipts and forms, studying the tax forms and explanatory material, making the calculations, entering the numbers, and mailing the envelope (by registered mail for the cautious). All this requires time and effort that could be put to other uses. In addition, there could be intangible costs, such as the feeling that loopholes may have been missed, or that policy changes discussed in the media portend dire tax consequences of unknown dimensions.

For employers, a separate Ontario PIT system would also mean dealing with separate tax deduction tables and separate collection agencies. Moreover, provincial budget changes would require more changes in computer programs than they do at present, since income or taxable income would have to be calculated as well as tax rates. Finally, significant variations in income taxes from province to province would complicate arrangements for employee transfers.

Some impression of the impact that a separate Ontario PIT might have on the individual taxpayer can be obtained by comparing the tax forms

1 This chapter is based on a study prepared by A.E. John Thompson, national tax partner with Coopers & Lybrand.

that face a Quebec resident each April with those faced by an Ontario resident under Ontario's present collection arrangement. For the 1981 taxation year, the Ontario resident was presented with a booklet which contained instructions, tax tables, and tax return forms and schedules in duplicate, covering both federal and Ontario income tax. There were sixteen pages of instructions, eight pages of tax tables, a four-page form, and ten schedules. The calculation of Ontario tax credits required a single page.

In Quebec, the individual received not only the same federal package (without the Ontario page), but also a package of similar bulk from the province. This contained a thirty-page guide (of smaller dimensions than the federal guide), a four-page tax form, thirteen schedules, and a separate page for a real estate tax refund.

While the Quebec forms and instructions follow a format similar to that prepared by the federal government, there are numerous differences that have to be taken into account. The taxpayer with uncomplicated affairs can perhaps ignore most of the material and simply prepare his return from the form itself. The cost of individual taxpayer compliance might then be low, yet it requires time and effort to learn that little time and effort are in fact required! For taxpayers in more complicated situations, the extra package adds more uncertainty to the business of planning one's activities and makes the need for professional advice more likely.

RELIANCE ON THE FEDERAL PERSONAL INCOME TAX SYSTEM

In spite of the value of having retaliatory weapons available when it negotiates with the governments of other jurisdictions, Ontario is likely to adopt its own personal income tax system only if it wants more scope for introducing specific tax measures, suitable for its own purposes, that would differ from the provisions of the federal system. Nevertheless, in estimating the costs of taxpayer and employer compliance under a provincial PIT system, it seems reasonable to assume that at the outset the provincial system would duplicate to a considerable extent the existing federal system. Adoption of the same general patterns for determining income, taxable income, and tax rates, and some reliance on the assessment and collection procedures of the federal government, would make compliance much less onerous than it would be if the province were to introduce a PIT system that was fundamentally different from the federal

model. The costs of complying with a separate Ontario income tax can therefore be appropriately viewed as marginal; in other words, it can be assumed that the present federal personal income tax system is in place, and that the Ontario system closely resembles it. Consequently, we are looking at the additional costs involved in complying with a new separate Ontario personal income tax that is largely modelled on the federal PIT system.

The next step is to consider what variations Ontario might adopt if it had its own personal income tax system, with a view to estimating the likely effect of these variations on compliance costs.

POSSIBLE VARIATIONS IN A PROVINCIAL PIT SYSTEM

Contemplation of a separate provincial personal tax, as distinguished from the present collection arrangements with specific tax credits, can spawn visions of basic tax reform. Thoughts of consumption expenditure tax in place of income tax, integration of corporate and personal income taxes, or tax-based income policies (TIP) can fire the imagination. However, because the probability of any such radical change seems low, it is assumed here that any changes introduced through a separate Ontario personal income tax system would be within the general framework of the present federal tax structure.

Even given these constraints, there are a considerable variety of measures that could be adopted within an Ontario PIT system. These could affect the income base (through modifying income inclusions or deductions), the taxable income computation (through changing exemptions), or the tax calculation (through rates and credits). To put the matter another way, specific measures could be adopted for revenue, equity, or incentive or disincentive purposes.

Experience in the Province of Quebec

The motivation for establishing a separate personal income tax might not be the same in Ontario as it was in Quebec, and the thrust of social and economic policies could be different. The result in either case would be a difference in specific PIT policy. Nevertheless, Quebec's experience with its personal income tax system provides concrete evidence of the types of changes that one might expect to experience in Ontario, given the intro-

duction of a provincial PIT system. A commentary on the experiences of a professional tax accounting advisor under the Quebec system appears in Appendix 5A. Table 5.1 is a summary of the ways in which the Quebec personal income tax has departed from the federal personal income tax. It will be noted that one of Quebec's main revenue raising measures has been the non-indexing of the tax rate table. With reference to equity or social policy, the province provides higher basic exemptions, higher top rates, different relief for children, and real estate tax refunds. Significant incentives have been provided in the form of a deduction from income up to $15,000 for a stock savings plan, an investment tax credit of 25 per cent on SODEQ shares, and permission to deduct current service contributions to a registered pension plan up to $5,500 rather than $3,500. The recent budget introduced a special extra incentive in 1982 for housing, allowing a deduction of $3 for every $1 of RHOSP contribution; next year the RHOSP deduction will be discontinued completely.

Some of the differences in the Quebec system may stem from different social or political views (such as the different rate progression, the higher benefits for company cars, and the ineligibility of capital gains for the $1,000 deduction) or from different bureaucratic views of what is appropriate (such as the computation of the benefit for a company car, the treatment of interest expense in computing the $1,000 deduction, and the former difference in the treatment of RRSP deductions where the employee is a member of a DPSP). There are some differences in bureaucratic interpretation of precisely the same tax legislation!

It is therefore evident from the Quebec experience that in addition to the three types of objectives for variations mentioned above (revenue, equity, and economic incentives) there are at least two more: political and bureaucratic considerations.

Experience under Ontario corporate income tax

While it is not directly analogous, experience under the separate Ontario corporate income tax also provides some indication of the kinds of variations that might be introduced under an Ontario personal income tax.

The Government of Ontario has declared an intention to use the federal CIT tax base and similar legislative rules to the greatest possible extent. Furthermore, copies of federal tax assessments are automatically supplied to Ontario's Corporate Revenue Department. Nevertheless, as

TABLE 5.1
Ways in which Quebec personal income tax has departed from federal personal income tax

Revenue	Special Incentives
Non-indexing of tax rate table.	$3 for $1 RHOSP contribution for 1982 only.
Equity or Redistribution	Quebec does not exempt employees' stock option benefits from tax as the federal measures do for private Canadian-controlled corporations.
Higher basic exemptions.	Contribution to RRSP limited to $3,500 if employee member of DPSP (federal now has the same limit when contribution to DPSP made in the year).
Higher top rate.	RHOSP cannot be used to buy a house from the spouse in Quebec.
Different relief for children.	For 1983 and following years contribution may be made to RHOSP but no deduction.
Real estate tax refunds.	
Different rate progression.	
Higher benefit for company cars.[a]	
Lower deductions for personal cars used to earn income.[a]	
No education deduction.	
No housing loan exemption.[a]	
Benefit from employee loan not computed on same basis.	
Savings and Investments	**Miscellaneous**
Current service contribution to RPP $5,500 rather than $3,500.	Unpaid balance is always subject to interest charge; interest on refund starts only 60 days after filing or April 30th, whichever is later.
Deduction up to $15,000 in stock savings plan.	Child care expense limits $2,000/child and $6,000/family instead of $1,000 and $4,000 federally.
Investment credit of 25 per cent on SODEQ shares.	Limitation in deduction of legal fees to obtain maintenance payments (Que. 133.3); may be allowed by federal authorities (IT-99R).
Capital gains not eligible for $1,000 deduction.	Differences in interpretation of the same legislation.
All interest expense deductible re $1,000 deduction.	
Capital loss deduction of $1,000 not $2,000.	

a Before budget of November 12, 1981.
ABBREVIATIONS: SODEQ - Quebec Business Development Corporations; RHOSP - Registered Home Ownership Savings Plan; RRSP - Registered Retirement Savings Plan; DPSP - Deferred Profit Sharing Plan; (IT-99R) - Interpretation Bulletin 99 Revised.

indicated in Appendix 5C, there are numerous differences both in the computation of the tax base, and, especially, with respect to incentive measures. The Ontario budget of May 31, 1982 indicates that these differences may increase, with exception being taken by Ontario to significant federal changes in respect of first-year capital cost allowance, reserves, and iron ore processing. When cumulative calculations such as capital cost allowance are subject to different rules, the implications for taxpayer

compliance are significant, because a major advantage of the existing capital cost allowance system has been its simplicity. Such variations are not possible under the collection agreements.

If Ontario were to adopt its own personal income tax system, it would ostensibly be for the purpose of adopting measures which could not be successfully carried out under the present Tax Collection Agreements or, alternatively, under other types of government programs such as grants or subsidies. The present Tax Collection Agreements with the federal government are in fact quite flexible and, as was discussed in Chapter 2, permit a variety of tax credits. At the same time, the federal government has said that it will not administer tax credits which indirectly change the tax base or promote interprovincial competition. (The exemption of certain British Columbia bond interest may, however, signal a change in policy.) The fact remains, however, that from the standpoint of businesses tax measures have greater appeal than grants of the same cost to the public purse. Grants are more interventionist and less consistent with the free market system.

On the basis of the above observations, it seems reasonable to conclude that, despite well-intended protestations to the contrary, the variations Ontario would adopt under a separate personal income tax system would likely be similar in pattern to those adopted by Quebec, even if for slightly different reasons. These variations would, at the outset, be within the framework of the existing personal income tax system, but would be numerous whether for political, bureaucratic, or economic-social reasons.

Because Ontario would have, or claim to have, certain unique social and economic circumstances or objectives, Ontario like Quebec would soon produce a personal income tax system that differed significantly from that of the federal government.

COST OF COMPLIANCE BY INDIVIDUAL TAXPAYERS

Preparation of Returns

It is difficult to estimate the cost of preparation of individual provincial personal income tax returns. There are no readily available statistics on the fees paid for returns that are prepared professionally, which represent a very significant percentage (possibly 30 to 40 per cent) of all individual

tax returns. For individuals who prepare their own tax returns, there are costs that cannot be readily measured but also cannot be ignored. The time and mental and emotional effort involved in preparing one's own return, whether this takes one hour or ten hours, is a diversion from economically productive activities or from leisure. There is an opportunity cost in either case. Many employees obtain assistance from their employers' personnel departments but do not pay a direct fee for the service. These costs are, of course, real to the employer and ultimately add to the cost of the goods or service produced. Again, it is reasonable to assume that a separate Ontario PIT system would be substantially similar to the federal PIT system, but would contain many specific differences. The relevant costs are, therefore, marginal costs.

On the basis of experience in the province of Quebec (see Appendix 5A), the additional marginal cost for the provincial return could be in the order of 25 per cent of the total cost of preparing the federal and provincial returns.

Given the inherent difficulty of the task, and time and budget constraints, it has not been possible to arrive at a reliable estimate of the compliance cost that would be involved in a separate Ontario personal income tax. However, it is possible to indicate some orders of magnitude. John Thompson of Coopers & Lybrand has made such an estimate, based on federal statistics of taxable Ontario individuals in 1979 for each of the major occupational categories. It is shown in Table 5.2. An estimate has been made of the percentage of returns prepared professionally (category 2) and of those prepared by individuals themselves (category 1). A minimal opportunity cost has been attributed to the latter category.

This very rough estimate indicates a cost of preparing returns on the order of $75 million to $225 million. On the basis of this quick and crude analysis, the 'best guess' cost of preparing returns could therefore be on the order of $150 million a year.

Other costs of individual compliance

The costs of individual compliance would not end with the tax return itself. There would be separate tax instalments to be paid by many taxpayers; clarification of instalment payments with the collection department; responding to questions about tax returns; disputing provincial tax assessments.

TABLE 5.2
Estimated costs of preparing provincial personal income tax returns[a]

	Number of individual taxpayers (000's)	Range of cost per return[b] (%)	(000's)	($)	Range of total cost ($000,000's)
Employees	3,019	1.[c] 75%	2,264	@ 10 to 25	22.6 to 56.6
		2. [20%]	604	@ 25 to 50	15.1 to 30.2
		[5%]	151	@ 100 to 400	15.1 to 60.4
			3,019		52.8 to 147.2
Farmers & Fishermen	36	1. 25%	9	@ 25 to 50	.2 to .5
		2. 75%	27	@ 150 to 200	4.1 to 5.4
			36		4.3 to 5.9
Professionals	37	1. 25%	9	@ 50 to 100	.5 to .9
		2. 75%	28	@ 100 to 400	2.8 to 11.2
			37		3.3 to 12.1
Salesmen	9	1. 50%	4	@ 25 to 50	.1 to .2
		2. 50%	5	@ 50 to 200	.3 to 1.0
			9		.4 to 1.2
Business proprietors	108	1. 25%	27	@ 25 to 50	.7 to 1.4
		2. 75%	81	@ 50 to 200	4.1 to 16.2
			108		4.8 to 17.6
Investors	193	1. 25%	48	@ 25 to 50	1.2 to 2.4
		2. 75%	145	@ 50 to 200	7.2 to 29.0
			193		8.4 to 31.4
Pensioners	115	1. 75%	86	@ 10 to 25	.9 to 2.2
		2. 25%	29	@ 25 to 50	.7 to 1.5
			115		1.6 to 3.7
Unclassified	56		56	@ 10 to 100	.6 to 5.6
	3,573		3,573		76.2 to 224.7

a Ontario taxpayer statistics derived from Taxation Statistics, 1981 edition. Issued by Revenue Canada - Taxation and based on taxable returns for 1979.

b Marginal cost of provincial return, assumed to be approximately 25 per cent of total cost of preparing a federal and a provincial return.

c Category 1 represents self-prepared returns; category 2 represents returns prepared for a fee.

If significant provincial incentives were introduced, presumably professional tax planning advice would be required even if the incentives were relatively simple in their application. The percentage of taxpayers affected would likely be relatively small - say less than 5 per cent - so that the magnitude of tax planning dollars per se would not appear to be very significant. However, there would also be the opportunity cost involved in diverting this group of individuals from other work. If only 100,000 individuals were affected, at an average additional annual cost of only $100 each, the total cost would amount to $10 million a year.

COST OF COMPLIANCE BY EMPLOYERS

Because the bulk of personal income tax is deducted at source by employers, costs to employers form an important part of compliance costs. According to 1979 federal taxation statistics for Ontario, 3,019,000 taxable returns out of a total of 3,573,000, or about 84 per cent, were from employees. They reported federal taxable income of $34.3 billion out of a total personal income of $41.8 billion and federal tax thereon of $8.7 billion out of a total of $10.5 billion.

Many functions contribute to the employer's cost of compliance. The amount and mechanics of payroll deductions have to be established. Deductions have to be reported to employees by pay stubs or other methods. Someone has to manage the cash flow. Information returns have to be filed. When a new budget comes along, programs or procedures have to be amended. Many large employers now provide personal financial advisory services for employees, and these would have to be extended to cover any new provincial income tax. The appropriate financial arrangements for interprovincial moves by employees would become more complex and more companies would be induced to use outside advisory services.

Aside from the task of identifying the direct personnel and material costs, space costs, and overhead management costs, the further difficulty for employers with respect to a new provincial income tax would be in measuring the marginal impacts.

It is noted in Appendix 5A that the matter of compliance costs under the Quebec PIT was discussed with two large Ontario-based companies that have operations across Canada. On the basis of their experience with their Quebec employees, it appeared that the total annual marginal costs of a provincial income tax could run an average of about $10 or $20 per

employee. The start-up cost for such a separate personal income tax would be about the same as the annual cost. The advantages of mechanization would decrease with a smaller number of employers, so that smaller businesses would presumably be faced with a higher additional cost per employee. Table 5.3 suggests a format for estimating an employer's compliance costs.

While such sampling would have to be extended to develop reliable statistics, it appears that the cost of employer compliance with an Ontario personal income tax for 3,000,000 employees could be on the order of $30 million to $60 million per year, with an equivalent amount being incurred in the year of start-up.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. Quebec's experience with its own personal income tax system and Ontario's experience with its own corporate tax system both suggest that if Ontario were to introduce a separate PIT system it would:

   - initially introduce a PIT system that closely resembled the federal system with relatively few variations;

   - with the passage of time, additional variations would be introduced in a succession of attempts to meet evolving political, social, economic, and bureaucratic objectives.

2. There would therefore be significant taxpayer planning and compliance costs. Some would be start-up costs; others would continue and presumably rise over time. These would include:

   - the additional costs to individual taxpayers who gather together the receipts or other documentation necessary in support of a tax return, study the requisite forms and accompanying information, and carry out the computations involved in order to complete their own returns;

   - the additional out-of-pocket costs to those who engage professionals to complete their returns on the basis of the data supplied;

TABLE 5.3
Format for estimating additional cost[a] to employer of complying with a separate provincial personal income tax

Nature of operations	
Number of employees	
Ontario	
Quebec	
Elsewhere	
Personnel administration costs (total)[b]	
Employee relations	
Payroll	
Computer	
Other	
Start-up costs of a separate provincial PIT[c]	
Computer	
Other	
Additional annual costs of a separate provincial PIT[b]	
Reprogramming one or two changes	
Routine payroll, banking procedures	
Personnel relations	
Financial counselling for staff	
Staff moves[c]	
Interprovincial No.	
U.S. to Canada No.	
Other No.	

a Using Quebec experience as a guide.
b Employee remuneration, supplies, equipment cost, and related overhead.
c Excluding equalization payments, but including cost of outside services for tax returns, cost-of-living indices.

- the additional costs to businesses that provide their employees with professional tax advice as part of their employee benefit packages;

- the additional costs to businesses of modifying their payroll systems in order to withhold PIT deductions at source for their employees.

3. Assuming that no drastic change in present tax policy would be introduced through an Ontario PIT system, it is estimated, on an admittedly crude basis, that the marginal increase in compliance costs would probably fall within these ranges:

- for individuals	$75-225 million/year
- for employers	$30-60 million/year
	$105-285 million/year

4. There would also be a start-up cost to employers of $30-60 million in the first year.

5. In 1981, Ontario PIT revenues were $4,573 million. The estimated cost of compliance under a separate Ontario PIT would therefore be about 2.3-6.0 per cent of revenues.

6. The mid-range of the estimated compliance costs is equal to roughly 224 per cent of the mid-range of the estimated direct administrative costs provided in Chapter 4.

Appendix 5A
Quebec's personal income tax from the viewpoint of a professional tax advisor[1]

In 1954, the Quebec government decided to set up its own personal income tax system. This decision came about as a result of years of disagreement with Ottawa, as was explained in Chapter 3.

The personal income tax system originally adopted by Quebec was very similar to that of Ottawa. The Quebec civil servants entrusted with the responsibility of implementing the new system could thus benefit from the federal experience in matters of interpretation and administration. Subsequent to Quebec's adoption of its own PIT, the Quebec minister of finance often followed passage of the federal budget with an announcement that he would harmonize Quebec tax legislation with Ottawa's. In the past few years, however, the discrepancies between the two systems have become more apparent, resulting in the use of different income tax returns for federal and provincial filing.

It is obvious that Quebec taxpayers face more onerous compliance costs than do taxpayers in other provinces. First, every Quebec taxpayer faces the problem of filing an additional income tax return. He must either master both forms himself or pay more, if he resorts to outside help, than would a resident of another province. Second, the taxpayer must deal with both differences in federal and provincial taxation legislation and differences in the interpretation of the same legal text, since in more and more instances sections of the federal and provincial tax acts that are identical are being interpreted differently by the two levels of government. The Quebec taxpayer must therefore convince two levels of government of the correctness of his interpretation of the law. The whole post-filing process, including notices of assessment and appeals, is clearly

1 Based on a study by Pierre Gill, tax manager of Coopers & Lybrand in Montreal.

more onerous in Quebec because of this duplication. It is also more likely that the Quebec taxpayer will see one of his income tax returns reassessed in detail than will residents of other provinces, who do not have to report to two levels of government.

DIFFERENCES IN INTERPRETATION IN THE QUEBEC PIT

The ways in which the separate Quebec system has been used for the province's own fiscal, social, and other objectives were summarized in Table 5.1. Even where there are not legislative differences between the federal and provincial systems, the Quebec minister of revenue will in various instances interpret differently a section of the law which was meant to be in harmony with federal law. One of the best examples is the deduction for automobile expenses which is granted employees and salesmen on commission.

According to the Quebec government, any employee who receives a travel allowance, no matter how small, which he is not obliged to declare as income in accordance with the law, cannot claim any travelling expenses. The Quebec minister of revenue has been issuing notices of assessment for years denying any claim for automobile expenses made by employees in this situation. Revenue Canada, according to Interpretation Bulletin IT-272, allows the employee who has received travel expenses which are not reasonable to include them in his income and then claim actual travel expenses.

Another difference in interpretation emerged after the decision in the Harman case (regarding expenses of an automobile provided to a travelling salesman) was made public. Quebec alleges it is not bound by this decision because it was made on the basis of the federal Income Tax Act.

There is also the case of the $1,000 interest and dividend deduction (110.1(1)) as it applies to a separate return made on behalf of a deceased taxpayer, in accordance with subsection 70(2). Paragraph 3 of Revenue Canada's Bulletin IT-326 clearly grants the deduction, while Quebec with equivalent provisions refuses this deduction systematically.

A final example demonstrates the difference in interpretation of identical provisions. Paragraph 150(1)(b) of the federal Income Tax Act (Quebec 1,000 (2)(c)) deals with the date of filing of the last return of a deceased person by his or her legal representative. The federal interpretation is clearly stated in paragraph 3 of Information Bulletin 73-1R3 as

six months after death or the following April 30, whichever comes later. We have been aware in the Montreal office of at least two instances in which the Quebec Revenue Department did not accept this interpretation and stated that the return should have been filed within six months following the death. After lengthy discussions at the highest levels, we managed to convince Revenue Department officials to endorse the federal position.

These examples show how Quebec residents, who not only have to put up with deliberate differences set out by legislators in income tax law, also have to face different interpretations of laws intended to be identical from the outset.

FEES FOR PERSONAL TAX ADVICE

Like many if not most other accounting firms, we use a computer to complete personal tax returns. The Quebec return is prepared in conjunction with the federal return and we cannot establish very precisely the portion of our fees which are attributable to the Quebec return. However, experience has shown us that supplementary costs are incurred in such transmission of returns. There are also additional fees for items such as the determination of car expenses, addition of further information, collation, and responses to Quebec assessment notices and requests for additional information.

We estimate that 25-30 per cent of our fees from personal income tax clients with federal and Quebec returns relate to the Quebec return. With respect to those who file in the United States as well, the estimated portion relating to the Quebec return would be 15-20 per cent. Our experience with fees has formed part of the basis for the estimates made in Table 5.2.

COSTS OF EMPLOYER COMPLIANCE WITH QUEBEC PIT

We have asked two of our clients to express their opinions on administrative costs linked to payroll and personnel departments. These two businesses have employees in Quebec and in at least one other province including Ontario.

The first client uses an outside payroll system and states that there is no difference in the service fees between Quebec employees and the

others. The client added that having to deal with two levels of government does cause problems but that the amount of additional administrative costs is not significant. However, the outside service agency may incur costs which are spread over all provinces.

The second business has its own computer and payroll program. The person responsible for data processing mentioned that he modifies the program himself when changes occur in the federal and provincial income tax acts. Specific costs related to Quebec employees are marginal. Additional information is indeed required but the computer can easily provide it. It seems also that there would be no reduction in payroll personnel if Quebec stopped collecting its own personal income tax. The biggest problem, according to this employer, occurs when he wants to transfer an employee from another province to Quebec; he then has to absorb the cost of the difference in taxation rates as well as the cost of non-taxable benefits which become taxable, such as a $50,000 house loan.

In summary, it seems that any additional administrative costs are absorbed initially and remain marginal. Therefore, payroll and personnel costs are not much higher for Quebec employees than they are for those in other provinces in the case of large businesses which are computerized. On the other hand, in the case of manual payroll systems, which are found mainly in small businesses, it seems that 25 per cent of payroll costs can be attributed to the fact that Quebec has its own personal income tax collection system.

EFFECT OF QUEBEC TAX INCENTIVES ON TAXPAYER BEHAVIOUR

To our knowledge, no statistics have been published regarding the Quebec Stock Savings Plan, implemented in 1979. However, newspaper articles and a survey involving four large brokerage houses in Montreal have indicated a sizeable increase in new investors on the stock exchange. After a fairly sluggish start in 1979, the number of new accounts in 1980 indicated a large increase. The same phenomenon took place in 1981. It seems that the companies which profited the most from these investments, and consequently from investor confidence, are the large national and multinational companies such as Bell Canada, Northern Telecom, Alcan, The Bank of Montreal, The Royal Bank of Canada, and Canadian Pacific. Smaller Quebec-based companies such as Bombardier, Provigo, Gaz Metropolitain, Comterm, and National Bank of Canada also benefited from this

renewed investor confidence. It appears that a few of these companies would have had difficulties in selling their shares in the absence of the Quebec Stock Savings Plan.

There seem to be two basic categories of investors. First, there are those investors who already owned a portfolio of shares listed on the stock market even before the institution of the plan in 1979. Second, there are those who became first-time investors as a result of this new plan. It appears that investors who belong to the first category consider their stock saving accounts as part of their main portfolios and view them as a means of diversifying their portfolios. This can be seen as shuffling accounts in order to take advantage of tax shelters. The investors belonging to the second category have traditionally invested their savings in bonds and term deposits, and now use the services of a broker. Brokers have mentioned that new regular accounts were opened and certain customers were beginning to make transactions outside the plan, thus managing their savings in a new way. The brokers we spoke with all agreed that this will have a very positive impact on stock market activity.

One of the main reasons behind the Quebec government's decision to raise the maximum deduction for contributions to a registered retirement plan to $5,500 per year is the fact that contributions were limited to a percentage of salary in the case of certain employees, some of whom were civil servants. In many instances, the contributions were in excess of the $3,500 limit, and the increase now allows these taxpayers to deduct the extra $2,000. However, on the basis of our clients' income tax returns, we can say that contributions in excess of $3,500 are not a very common occurrence and that the increase in the limit of contributions has not caused a very noticeable increase in the contributions made to these plans.

One can assert without doubt that it is costlier to do tax planning for a resident of Quebec than it is for a resident of any other province. In Canadian tax publications, elements of tax planning are often suggested, such as the remuneration of the shareholder-manager through a combination of salary and dividends. Such examples can easily be adapted from one province to the other, but it is difficult to rely on the conclusions of these analyses in the case of Quebec taxpayers without modifying these conclusions, sometimes substantially.

It is also obvious that a separate tax system leads to a search for new tax loopholes at the provincial level. Appendix 5B provides an example of a tax loophole at the federal level which resulted from the

separate system for Quebec.

OTHER EFFECTS OF QUEBEC PIT ON TAXPAYER BEHAVIOUR

It is very difficult to pinpoint the reasons which prompt the departure of Quebec residents for other provinces. One cannot deny, however, that high personal taxes have always been invoked as a partial justification for the exodus of head offices and manufacturing companies. Businesses which cannot fill certain positions with Quebec residents have had to recruit candidates in other provinces or outside the country. These employers are often shocked by the amount of money they have to provide in order to keep the candidate's after-tax income at par. This situation is certainly not very conducive to bringing in skilled workers and management-level employees into Quebec. Moreover, it could be a considerable deterrent for individuals in other provinces who are contemplating a move to Quebec.

The attempt is often made to correlate the rate of personal income tax with a lack of incentive to work harder. Many taxpayers in Quebec do believe that once their income increases beyond a certain bracket, any effort to earn more will only profit the tax collector. However, it is very difficult to measure this phenomenon or its impact on the economic output of the province.

Appendix 5B
Example of a loophole arising from an anomaly under the separate Quebec personal income tax

The foreign tax deduction under subsection 20(12) of the Canadian Income Tax Act (ITA) and section 146.1 of the Quebec Taxation Act (QTA) is an example of such an anomaly. We have made a review of the situation which prevailed before and after the 1981 taxation year for a better understanding of it.

Under section 126 of ITA and section 772 of the QTA, a taxpayer may deduct from the tax otherwise payable an amount determined by a formula for the foreign non-business income taxes paid to a foreign country which are attributable to income from a source outside Canada. The excess of the foreign tax paid over the allowable credit may in certain circumstances be deducted under subsection 20(12) of the ITA and section 146.1 of the QTA.

For taxation years ending before 1981, a taxpayer was entitled under 20(12) for federal purposes to a deduction for the excess of the total non-business income tax paid over the federal foreign tax credit as defined in section 126 of ITA without any regard for the foreign tax credit allowed at the provincial level. For Quebec purposes, the taxpayer was permitted to claim a deduction under 146.1 (section equivalent to 20(12)) for the excess of the total non-business income tax paid over the provincial foreign tax credit as defined under 772 of the QTA without reference to the federal tax credit allowed. It was therefore possible to claim a full or part deduction under the section 146.1 for which the taxpayer had already received a tax credit.

In Bill 42, assented to on March 18, 1982, the Quebec government changed the QTA. For the 1981 and subsequent taxation years, in the calculation of the section 146.1 deduction the taxpayer must reduce the foreign tax paid by the amount allowed under section 126 of ITA. Therefore, a deduction will no longer be available in Quebec for an amount

already credited federally. A deduction may still be allowable under 20(12) of ITA, even though a foreign tax credit was claimed for the full amount for federal and Quebec purposes.

The following example illustrates one client's situation.

	1980 $	1981 $
Foreign tax paid	47,944	69,335
Foreign tax credit		
- Federal	30,583	30,180
- Quebec	17,361	39,155
	47,944	69,335
Deduction under 20(12)	17,361	39,155
Deduction under 146.1	30,583	NONE
Tax reduction relating to the 20(12) and 146.1 deduction	16,174	14,059

Appendix 5C
Summary of differences between federal and Ontario corporate taxation

Summarized below are the main differences between the Ontario and federal corporate income tax provisions. These differences include those that will result from the enactment of the November 12, 1981 and June 28, 1982 federal budgets and the 1982 Ontario budget. Differences in the taxation of resource corporations federally and provincially (Ontario) are noted separately.

LIABILITY FOR INCOME TAX

1. Federal

A corporation resident in Canada is subject to tax on its world income. A corporation not resident in Canada is subject to tax on its taxable income if it carried on a business in Canada or disposed of taxable Canadian property.

A non-resident entertainment corporation is subject to withholding tax of 15 per cent on gross revenue from performances given in Canada. This tax is subject to refund upon filing a tax return by a non-resident corporation where the corporation is entitled to a refund.

2. Ontario

If a corporation resident in Canada has a permanent establishment in Ontario, it will be subject to tax on taxable income allocated to Ontario. For purposes of the act, the definition of permanent establishment for Ontario purposes is essentially the same as that for federal purposes. However, this definition is extended to include any

corporation that produced, mined, created, manufactured, fabricated, improved, preserved, or constructed anything in Canada in the taxation year. Also, for corporations whose taxation year ends after May 19, 1981, a corporation's "registered office" will be included with the "head office" as constituting a permanent establishment in the jurisdiction, unless the corporation has a permanent establishment elsewhere in Canada.

A non-resident corporation is subject to tax in Ontario if it owns and receives income from the sale or rental of Ontario real properties or timber resource properties, or disposed of a taxable Canadian property that was situated in Ontario.

After May 19, 1981, non-resident entertainment corporations were no longer liable for corporation tax. Prior to this date withholding tax of 5 per cent on gross revenue from performance in Ontario was imposed, subject to any refund entitlement upon filing an Ontario corporations tax return.

CALCULATION OF NET INCOME FOR TAX PURPOSES

1. Capital property - investment tax credit

For federal tax purposes, an investment tax credit is treated as a form of government assistance which reduces the cost of capital property. If the property is depreciable property, capital cost allowance can be claimed only on the net cost of the property after the deduction of the tax credit.

For Ontario purposes, investment tax credits are treated in the same manner as for federal purposes except that prior to March 8, 1978 the credit claimed did not reduce the cost of property.

2. 115 per cent depreciable cost incentive

For federal tax purposes, an incentive was granted for certain manufacturing and processing assets acquired in the years 1970 to 1972 whereby the depreciable cost of these assets was increased by 15 per

cent. For Ontario tax purposes, this incentive was not granted.

3. Ontario's Beef Calf Stabilization Program

For Ontario tax purposes, payments or refunds from this program are included in income.

For federal tax purposes, there is no provision to include these amounts in income.

4. Interest on loans to non-resident persons

For federal tax purposes, interest is imputed at a prescribed rate on low interest or on interest-free loans by resident corporations to non-resident persons (except subsidiary controlled corporations), unless non-resident tax is withheld or paid by these loans.

For Ontario tax purposes, interest will be imputed on all low interest or interest-free loans by resident corporations to non-resident persons. There is no exclusion with respect to loans on which Part XIII tax is paid (non-resident tax).

5. Management fees, rents, royalties, and other similar payments to a non-resident who is not dealing at arm's length

Management fees, rents, royalties, and other similar payments to non-residents are fully deductible in computing the net income of a corporation for federal tax purposes, even if such amounts are subject to non-resident withholding tax.

For Ontario tax purposes, a corporation must include 5/14 of management fees, rents, royalties, and other similar payments made after April 11, 1979 in the calculation of net income for tax purposes when such payments are subject to federal non-resident withholding tax.

6. Regulations for determining the deduction for capital cost allowance

For federal and Ontario tax purposes, depreciable assets are classi-

fied under different classes of capital property. Both the federal and Ontario acts provide for the same classes of assets. However, the capital cost allowance that may be deducted on these classes can differ.

Pursuant to the November 12, 1981 federal budget, only one-half of the capital cost allowance that could be formerly claimed in the year of acquisition can now be claimed on assets acquired after November 12, 1981.

For Ontario tax purposes, the capital cost allowance deduction allowed in the year an asset is acquired will remain at the normal rate of write-off currently provided and will not be reduced by one-half.

7. Reserves on capital gains

Following the November 12, 1981 budget, for federal tax purposes a corporation can claim a reasonable reserve for proceeds not due until after the year-end, provided that at least one-fifth of the gain times the number of taxation years which have elapsed since the disposition has been included in income. Thus, one-fifth of the gain, as a minimum, must be included in income in the year of the sale and in each of the subsequent four taxation years, regardless of the length of the repayment period.

For Ontario tax purposes, the reserve provisions remain unchanged. Consequently, a corporation does not have to include in income that portion of the capital gain that can be attributed to unpaid instalments, until such instalments are paid.

8. Income reserves

For federal tax purposes, a corporation may deduct a reserve for that portion of the profits from the sale of land or property other than land that is not due until a later year.

For Ontario tax purposes, a reserve cannot be deducted if the corporation disposes of a mortgage or other security that is taken as

full or part payment for the sale of property within a year after the disposition of the property.

Pursuant to the November 12, 1981 budget, a company cannot claim a reserve for federal tax purposes with respect to a sale occurring more than 36 months before the end of the year. This provision will not be adopted for Ontario tax purposes.

9. Foreign taxes

For federal tax purposes, a corporation can deduct foreign non-business income tax in lieu of a foreign tax credit in certain cases.

For Ontario tax purposes, foreign non-business income tax is deductible after May 19, 1981 only to the extent that it has not been deducted as a credit for federal income tax purposes.

10. Taxable Crown corporations

For federal tax purposes, corporations owned by the federal government that are named in the federal regulations are subject to federal income tax.

For Ontario tax purposes, if named in the Ontario regulations, certain corporations which are owned by federal, provincial, or municipal governments will be subject to Ontario income and capital taxes.

11. Deductible corporation taxes

For Ontario tax purposes, a corporation tax other than corporation income tax is deductible. There is no similar provision in the federal Income Tax Act; however, it is Revenue Canada's assessing policy to allow companies to deduct a corporation tax other than a corporation income tax.

12. Payments received under the Employment Support Act

For federal tax purposes, the above-noted payments are taxable.

For Ontario tax purposes, these payments are not taxable. Also, federal grants received under the Area Development Incentives Act, the Industrial Research and Development Incentives Act, or the Regional Development Incentives Act are exempt from tax.

13. Foreign tax carry-over on amalgamation

For federal tax purposes, a foreign tax carry-over from predecessor corporations to a new amalgamated corporation will be allowed. There is no similar provision in the Ontario Tax Act.

14. Partnerships and their members

For federal tax purposes, each taxpayer deemed to be a member of a partnership which carries on a business in Canada in a taxation year shall be deemed to carry on that business in Canada in that year.

There is no equivalent provision in the Ontario Corporations Tax Act. For Ontario tax purposes, corporate members of the partnership are deemed to have a permanent establishment in Ontario if the partnership activity would render it liable for tax if it were a corporation.

COMPUTATION OF TAXABLE INCOME

1. Political contributions

For Ontario tax purposes, election contributions, up to a maximum of $4,000 for any taxation year, are allowed as a deduction from taxable income. Any unclaimed amount may be carried forward or deducted in succeeding years.

There is no similar provision allowing a deduction of political contributions in the federal Income Tax Act. However, the federal Income Tax Act does allow a tax credit up to a maximum of $500 to be deducted from taxes payable.

CALCULATION OF INCOME TAX PAYABLE

1. Small business deduction

Canadian-controlled private corporations eligible to claim a small business deduction will be taxed at less than full rates on the first $200,000 of business income earned in a year. For federal purposes, companies engaged in providing professional, managerial, administrative, or similar services (i.e., engaged in non-qualifying activities as that term is defined in the Income Tax Act) are taxed at a higher rate (23-1/3 per cent) on business income than those not providing such services. These other companies are taxed at 15 per cent on their business income.

For Ontario tax purposes, a single effective tax rate of 10 per cent was applicable for corporations claiming a small business deduction. No distinction was made between corporations earning non-qualifying business income and those earning qualifying business income.

Following the 1982 Ontario budget, for Ontario income tax purposes those corporations engaged in qualified activities and eligible to claim a small business deduction under subsection 125(1) of the Income Tax Act will not have to pay tax on their business income earned in a taxation year ending after May 31, 1982 and before May 14, 1984.

2. Foreign tax credit

For federal tax purposes, the foreign tax credit is available in relation to foreign investment income and foreign business income.

For Ontario tax purposes, the foreign tax credit is allowed only in respect of foreign taxes paid on foreign investment income.

3. Incentive tax credit for investment

For federal tax purposes, all corporations may claim an investment tax credit based on the cost of certain specified depreciable assets acquired or for certain expenditures incurred. (As discussed earlier,

any investment tax credit claimed on capital property will reduce the capital cost of the property.)

For Ontario purposes, only Canadian-controlled private corporations qualifying for the federal small business deduction are permitted to claim a tax credit. This credit is based on an amount up to 20 per cent of the cost of depreciable property purchased between April 22, 1980 and April 23, 1982 if this property is used in Ontario to earn income from a business. This credit is limited to a maximum of $3,000.

4. Manufacturing and processing profits credit

Although both taxing authorities offer a tax credit for corporations engaged in manufacturing and processing, there are policy differences in the calculation of the manufacturing and processing credit.

For federal purposes, the credit is based on 'Canadian manufacturing and processing profits'. The Ontario credit is based on 'eligible Canadian profits', which involves a computation of income on a basis acceptable for Ontario tax purposes. The Ontario profit base includes elements derived from mining, farming, logging, and fishing; the federal base does not.

For federal tax purposes, Canadian manufacturing and processing profits eligible for the small business deduction qualify for a manufacturing and processing tax credit. For Ontario tax purposes, Canadian profits eligible for the manufacturing and processing credit are reduced by the amount of any active business income included therein which is eligible for the federal small business deduction.

For Ontario purposes, all of a corporation's active business income qualifies for the credit if total active business income does not exceed $250,000 and active business income from sources other than manufacturing and processing, mining, farming, logging, or fishing does not constitute more than 20 per cent of total business income. At the federal level, a similar rule exists for small manufacturers with active business income not in excess of $50,000 (to be increased to $200,000

under the federal budget of November 12, 1981).

5. Political donations credit

As previously noted, the federal Income Tax Act allows the taxpayer to deduct a credit of up to $500 for any federal election contributions made during the year. The Ontario act has no similar provision.

6. Employment tax credit

For federal income tax purposes, qualified employers are eligible to deduct an employment tax credit from Part I tax otherwise payable. Any unused credit may be carried forward for five years. There is no similar tax credit allowed for Ontario purposes.

RESOURCE CORPORATIONS

1. Resource allowance

For federal tax purposes, a corporation can deduct from business or property income a resource allowance based on 25 per cent of its resource profits from mining and oil and gas operations in Canada.

For Ontario tax purposes, corporations can deduct a resource allowance only on profits from oil or gas operations (including mining of tar sands) in Canada.

2. Depletion allowance

Ontario's depletion allowance is 33-1/3 per cent of resource profits, whereas, at the federal level, depletion is limited to 1/3 of the corporation's investment, up to a maximum of 25 per cent of resource profits. Depletion allowances for oil and gas companies are computed on the same basis for Ontario and federal purposes. However, the concept of earned depletion is applicable for federal purposes for taxation years ending after May 6, 1974 and for Ontario purposes for taxation years ending after April 19, 1977. Ontario does not provide

incentives similar to those proposed in the Federal Petroleum Incentives Program.

3. Foreign resource property

For federal tax purposes, foreign resource properties are treated as income assets, and on disposition the proceeds of sale are added to the income that may be reduced by undeducted foreign exploration and development expenses.

For Ontario purposes, foreign resource properties are treated as capital assets and any expenses incurred are added to the adjusted cost base of that property.

4. Development expenses

For federal tax purposes, resource companies in the oil and gas or mining industries are entitled to a 30 per cent deduction for development expenses.

For Ontario tax purposes, resource companies in the oil, gas or mining industry are entitled to a 100 per cent deduction for development expenses incurred in Ontario. These corporations are also entitled to a 30 per cent deduction of development expenses incurred outside Ontario.

PART III
Economic Analysis and Assessment

6
A conceptual framework and some quantitative estimates: a basis for the economic analysis and assessment

A personal income tax structure constitutes a bundle of policy instruments in the sense that there are an infinite number of possible combinations of base and rate modifications. It is not within the purview of this report to seek a design for a particular PIT structure that Ontario might adopt. The question posed is not which Ontario PIT structure would provide a net economic benefit but whether any such structure might potentially be more cost effective than changes in other policy instruments.

This entails seeking an answer to the question: could the degree of realization of provincial economic objectives or goals be increased by structural changes in a PIT system that the federal government would be unlikely to enact? But even if the answer were in the affirmative, the relative cost effectiveness of PIT structural changes as compared with other policy instruments, such as subsidies or regulations, would remain at issue. The most effective instrument should obviously be employed, and a separate Ontario PIT can be justified on economic grounds only if other means would be less cost effective.

It is customary, when assessing alternative government economic policies, to assume that there are three distinct, widely-shared objectives: short-term stabilization, allocative efficiency (the efficient utilization of the factors of production), and a 'fairer' (more widely accepted) distribution of income and wealth. The greater realization of these objectives constitutes the net benefit derived from the policy change. It should be noted that conflicts among them are not uncommon: the greater realization of one objective often necessarily entails a sacrifice of one or both of the others.

In this report these objectives are taken as the criteria by which to assess the Ontario PIT alternative.

STABILIZATION OBJECTIVE

Economic stability consists of the simultaneous realization of full employment (currently taken by most economists as an unemployment rate not in excess of 7-8 per cent - the so-called 'natural rate' of unemployment) and a reasonably stable general level of prices. Failure to realize full employment imposes a cost (i.e., benefit forgone) in the form of the output lost because some productive factors are idle or are working/operating at less than capacity. Failure to realize stability in the general level of prices (inflation or deflation) bestows capital gains and losses on individuals in a manner that is not thought to be equitable. Moreover, inflation is probably destabilizing, in and of itself, when the rate of inflation is not constant (i.e., is not anticipated). Certainly there is ample evidence around us that, the structures of western economies being what they are, attempts to reduce the inflation rate usually have seriously adverse effects on the unemployment rate, at least in the short run.

ALLOCATIVE EFFICIENCY OBJECTIVES

Productive resources (labour, human capital, physical capital, and natural resources) can be used to produce and distribute an enormous range of goods and services that individuals want. The output obtained when the resources are allocated to a particular set of uses can be thought of as the benefit. The output forgone of other goods and services that people also want is the cost.

When the net benefit is not as large as possible (this includes, of course, the extreme situation where the net benefit is negative!) allocative inefficiency is said to prevail. To be more explicit, when allocative inefficiency prevails the value (as assessed by individuals) of the goods and services available to the nation or province could be increased costlessly: in short, the standard of living of the citizenry could be enhanced without greater personal sacrifices[1] - aggregate economic welfare would be increased.

Allocative efficiency has two aspects: the first, and most frequently discussed, is 'static efficiency' - the efficiency of the allocation of existing

1 The sacrifices involve forgoing leisure or enduring greater postponement of consumption.

resources at a point in time. The second is 'dynamic efficiency' - the efficiency of the allocation of resources over time, which essentially hinges on the saving decision: less consumption now and more later, or conversely. This distinction, although it is not evident in the published output statistics, is important analytically in distinguishing the likely effects of policy changes. Improving static efficiency will bring about a once-and-for-all increase in the level of output of goods and services. Improving dynamic efficiency will bring about a change in the rate of growth of output over time.

To clarify the distinction between stabilization on the one hand, and static and dynamic efficiency on the other, suppose that real output per capita (i.e., adjusted for price changes) has increased in three successive years by, say, 2 per cent, 3 per cent, and 4 per cent. In common parlance it would be said that the economy has been 'growing' in each of the three years, that the average 'growth' rate was 3 per cent, and that the economy was growing at an increasing rate. Analytically, however, each of these 'growth rates' could be decomposed into three elements:

- increases in output attributable to the fuller utilization of the factors of production (i.e., moving closer to full employment);
- increases in output attributable to a more efficient utilization of resources on a once-and-for-all basis (static efficiency);
- increases in output attributable to the more efficient utilization of resources between present and future consumption (dynamic efficiency).

Clearly not all of the components have to contribute to the realization of the increased output - some may be negative. A decline in output can also be partitioned in the same way.

Ideally, in this report, the term 'efficiency' should be reserved to mean 'once-and-for-all changes in output' (static efficiency). The term 'growth' should be reserved to mean 'allocative efficiency over time' (dynamic efficiency). But because improvements in static efficiency increase output on a once-and-for-all basis over significant periods of time rather than instantly, the term 'growth' is usually used to describe both kinds of efficiency improvements.

To illustrate the distinction, suppose Ontario were to implement its own PIT system with an attendant net increase in administrative and com-

pliance costs (presumably the federal government could realize some administrative savings). Suppose further that zero economic or other benefits were to accrue from this change. Productive resources would be diverted to a use that yielded no goods and/or services that people wanted and the rate of growth of future output would be reduced. This would constitute a once-and-for-all 'permanent' reduction in real output, or a loss in static efficiency in our terminology. It would not, however, affect the rate of growth of output. The latter would proceed from a lower level (base) but would not, in and of itself, be affected.

The rate of growth of output is necessarily determined by the rates of growth of:

- population,
- labour force participation by that population (fraction of population that either works or seeks to work),
- hours of work/time period, and
- output/man hour.

Some of these rates of growth obviously cannot continue to grow indefinitely: there are physical limits to population size, the labour force participation rate cannot exceed 100 per cent of the population, and hours of work/time period cannot exceed the number of hours in that time period. This means that, technically speaking, increasing the rate of growth on a permanent basis hinges on the feasibility of permanently increasing the rate of growth of output/man hour (labour productivity).

Crudely put, labour productivity is determined by:

- the quantity of physical capital available per worker,
- the quantity of human capital (health, education, training) embodied in the workers, and
- the quality (technological sophistication) of that human and physical capital.

Here too, only the latter two determinants can conceivably continue to grow at an increasing rate on a permanent basis. It must be borne in mind, therefore, that the 'growth rate' probably has a 'natural' limit (say, a rate of increase in real GNP per capita of 3-4 per cent per year). When the limit has been reached, the growth objective is realized by sustaining

it over time.

INCOME DISTRIBUTION

It is widely recognized that stability, efficiency, and growth, the prime economic objectives as we have defined them, are not the sole objectives of government policy. Among the other objectives is the attainment of a 'fair' or 'more widely accepted' distribution of income and wealth.

What is 'fair' or 'accepted' is not an economic issue. But economic analysis is the tool by which it is possible (although difficult!) to relate changes in the policy instruments (in this case features of the PIT structure) and changes in income distribution. It is important to at least be aware of the likely income distribution consequences of any tax structure changes.

Three important points need to be borne in mind with respect to the PIT income distribution question:

1. Virtually without exception, every government policy, whether implemented through taxation, expenditures, regulation, public ownership, loans, or other means affects the distribution of income and wealth. Sometimes this is intentional, sometimes not. Any PIT changes designed to alter the prevailing distribution of income and wealth should, in principle, be viewed in this context.

2. It certainly is not within the purview of this report to design a PIT structure(s)[2] that would further the realization of the redistributive objectives of the Province of Ontario - whatever those objectives may be. The relevant question is this: what could be done through a separate Ontario PIT system to further realize Ontario's redistributive objectives[3] that could not be done as cost effectively or more cost effectively through the existing federal-Ontario PIT system, or through modifications to the present system that the federal government would administer, or through the use of other policy instruments? Only if there were what might be termed a 'positive net

2 Such structures would encompass the integration of PIT and some or all transfers to persons.

3 The redistributive objectives of governments are seldom explicitly stated in operationally defined terms.

benefit residual' would a separate Ontario PIT system be justified - it being borne in mind that both tangible and intangible costs to taxpayers, employers, and the government are relevant.

3. Not only can intended PIT redistribution policies usually be offset by other provincial policies, and conversely, but provincial redistribution policies can be offset by federal policies, and conversely. A strategic situation can prevail, with moves and anticipated countermoves. The same is true of the provinces vis-à-vis one another.

It is imperative to take into account the strategic behaviour of other jurisdictions. All potential net benefits from policy changes, including modifications in the existing PIT that were undertaken by Ontario under a separate system, have to be multiplied by the probability that they will not be negated (or worse!) by retaliatory measures taken by other jurisdictions. A net benefit of a billion dollars soon dwindles into insignificance if the probability of full retaliatory offsets is high. The question of interjurisdictional strategic behaviour is not considered in any substantive way in this chapter. This omission is made not in order to belittle the question's importance - which is enormous - but simply because the 'answers' are necessarily speculative.

A PIT SYSTEM AS A BUNDLE OF POLICY INSTRUMENTS

As was stated earlier, a personal income tax system encompasses a whole bundle of policy instruments (means) and is not a policy instrument, except when only one variable, say the effective rate of tax, is altered. This step might be taken for economic stabilization purposes (cut in bad times - raised in good times), or because the weight of PIT revenues relative to other sources or the overall level of taxation is to be changed for longer-term growth enhancement or other purposes.

For the purposes of this report, however, these two types of PIT changes are irrelevant, since the rate of tax can be altered by the province under the current collection arrangements.

To reiterate, from this perspective, a PIT system is not a policy instrument but a bundle of them. Consider the components of any PIT structure:

add definition of income (e.g., employment capital gains, business income, investment income, etc., etc.)

subtract allowable deductions
(e.g., registered pension contributions, other forms of registered saving, UI contributions, etc., etc.)

subtract personal exemptions
(e.g., spouses, dependent children, relatives, medical, charitable contributions, etc., etc.)

equals taxable income
times federal marginal rate structure
equals Federal Basic Tax
times provincial rate of tax on Federal Basic Tax
equals tax liability to the province before credits (if any)
less provincial tax credits
equals net tax liability to the province

Each of the major components of this structure can vary infinitely. And these variations can be combined in an infinite number of ways. The evaluation of each of the possible PIT structures is out of the question. To evaluate a few 'ideal-type' PIT structures would be pointless unless we had some prior knowledge of the likely effects of changes in certain components of the tax structure, and the further realization of provincial objectives relative to the alternative means. These issues and their potential contributions are now addressed.

THE ANALYTICAL TASK

The analytic task of this report is largely implicit in the framework just described: can variations in a PIT structure be used to increase economic stability and/or economic efficiency and/or economic growth? Given that the province presumably has certain income distribution objectives, can a PIT structure be used to further realize these objectives? Would the use of the PIT structure to further realize the strictly economic objectives be consistent with these income distribution objectives?

To repeat for emphasis: a separate Ontario PIT system could be justified on economic grounds only if the same results could not be achieved by other means at the same cost or less and if the probability were acceptably low of strategic countermoves by other jurisdictions that

would negate or more than negate any net benefits thus obtained.

In what follows, an attempt is made to be somewhat more precise about the analytic tasks involved in each of the several dimensions of the problem that have been set forth.

Stabilization

Given that changes in the level of taxation are beyond the scope of this report, the analytic questions to be addressed are necessarily confined to assessing the possible efficacy of short-term changes in PIT (e.g., credits) that might increase employment or stabilize prices. Because employment increases when real aggregate demand (spending) increases (up to full capacity), what is of interest here is the feasibility of encouraging personal consumption and/or private investment on a short-term basis through temporary PIT changes. Conceptually, if not in fact, personal consumption might be increased by discouraging private saving (e.g., reducing deductions for saving), while real investment might be increased by increasing the after-tax rate of return on certain kinds of investments (e.g., enriching the dividend tax credit). (Revenues would not be held constant when stabilization was the objective - generally speaking.) At stake is not only the magnitude of the responses to a given change in structure but also the time lags involved in those responses.

On the anti-inflation side, one possibility that has been explored elsewhere is the feasibility of taxing at higher PIT rates increases in income arising from rapidly increasing rates of pay or selling prices. Another possibility would be to simply reverse the direction of the two hypothetical structural changes cited immediately above.

Economic efficiency

The principal economic rationale for government intervention is to prevent or offset 'market imperfections' or 'market failure'. By these terms economists seek to convey the notion that perfectly competitive markets, virtually by definition, bring about a perfectly efficient allocation of resources. There are, however, prevailing circumstances under which markets cannot exist at all, such as in the provision of 'pure public goods' (such as defence), or for many reasons operate imperfectly.

Although many of the goods and services provided by government are

not pure public goods, many of them have a degree of 'publicness' about them. That is to say, they would not be provided by the market in adequate quantities or qualities, primarily either because those who do not pay their full cost cannot be excluded from the benefits they provide, or because buyers are not fully informed with respect to their quality.

But the provision of public goods (including the redistribution of income and wealth) necessary for the achievement of efficiency necessarily entails the imposition of taxes that are invariably (with one extraordinarily rare exception) a source of inefficiency! Any PIT distorts the choice between work and leisure and between consumption and saving. In the first instance, the distortion arises because leisure (a form of consumption) is not taxed while the returns to work (wages) are taxed, thus encouraging leisure. In the second case, the distortion arises from the fact that although both consumption and savings are financed from after-tax income, consumer spending escapes further tax (ignoring the sales tax) while the returns from saving (interest) invite further tax. Personal income taxes are thus minimized by consuming rather than saving.

All other taxes, with one trivial exception, create similar kinds of distortions - that is, inefficiencies.[4]

This having been said, it is also true that some PIT structures - we ignore the other forms of taxation given our narrow task - engender greater inefficiencies than others. In particular, the greater the 'neutrality' of the tax structure, the smaller the inefficiencies it is likely to generate, and conversely. In this context, the term 'neutrality' means that small differences (or narrow distinctions) in the tax base do not have widely different tax consequences. To explain: it can be assumed that all taxpayers seek to minimize their PIT liabilities. If because of the tax structure small differences in behaviour have vastly different tax consequences, one can expect that the system will induce the tax minimizing behaviour ('tax avoidance' in common parlance[5]). As a consequence, the tax system will 'force' individuals to work less or save less or invest in different kinds of assets than they would in the absence of the tax system. Total output will be less than it would otherwise be and the government will not obtain the revenues it seeks. The non-neutral system im-

4 The two important pragmatic questions are: 'How material are these distortions?' and 'Do they offset or compound distortions elsewhere in the economic system?'

5 Tax avoidance is legal; tax evasion is not.

poses a 'deadweight loss', as it is called.[6]

The search for a more neutral tax system is the stuff of which tax reform is made: the concept of greater tax neutrality was the cornerstone of the massive Report of the Royal Commission on Taxation (the so-called 'Carter Report') of 1967. It is not beyond the realm of possibility that the Government of Ontario would, if it had its own PIT system, seek to introduce reforms in the federal PIT structure that is the current basis for Ontario PIT revenues. On the other hand, it seems highly unlikely that the province would adopt its own PIT primarily in order to create a more neutral PIT system. One might speculate, indeed, that Ontario would be more likely to develop its own PIT system for precisely the opposite reason: to have available a set of potential policy instruments for the pursuit of relatively narrow provincial purposes, even if these required massive departures from tax neutrality.

Therefore, in the analyses contained in this report, the search for greater tax neutrality per se is not emphasized. It is, however, implicit in much of what is said; for departures from neutrality designed explicitly to achieve some narrow purpose often have unanticipated indirect effects that negate (or worse) the attempt. These include not only economic effects but also, as we have emphasized, the probability of retaliation by the federal government or other provinces.

The only form of market failure that has been considered thus far is public goods. But economists have identified many other forms of market failure. To name only a few of the others where the tax structure may be a relevant instrument: capital market bias against human capital formation and investments in new, small, high risk ventures; underinvestment in research and development of a 'pure' type; and so-called 'externalities'. In each instance the 'failure' arises because of the prevalence of high 'transactions costs'. That is to say, information costs, bargaining costs, and property right enforcement costs. Some economists, indeed, would deny the existence of 'market failure', arguing that what emerges in the absence of government intervention simply reflects the existence of these real transactions costs.

6 The best example of a tax-induced deadweight loss arose in the eighteenth century, when the British government imposed a tax on the number of windows in a residence. In order to avoid the tax, people bricked their windows up. Few revenues could be collected and the residents suffered a loss of amenity.

Be that as it may, and leaving aside the ideological issue involved, governments frequently seek to compensate for these types of market failures (transactions costs if you will). The analytic question is the potential effectiveness of particular modifications in a PIT structure as means to these ends, relative to alternative policy instruments.

It should be noted that so-called 'externalities' encompass a kind of market failure unlike the others mentioned. The term denotes what are widely known as 'spillover' effects: costs or benefits that are not borne by (in the case of costs) or not captured by (in the case of benefits) those pursuing an activity. With spillover costs, there will be too much of the activity; with spillover benefits, too little of it.

PIT structures can generate what might be looked upon as pecuniary and non-pecuniary spillover effects.[7] If a jurisdiction were to adopt a PIT system (not offset by other policy instruments) that attracted unskilled, low-income individuals to that jurisdiction, this would probably be looked upon as a positive spillover by other jurisdictions that, as a consequence, had lighter welfare burdens. By the same token, if a jurisdiction adopted a PIT structure (again not offset elsewhere) that were to attract investment from other jurisdictions, this would be looked upon as a negative spillover by those jurisdictions.

These spillovers put constraints on what particular jurisdictions can do with respect to PIT structures. The analysis of the spillover effects of alternative PIT structures, and of the probable reactions of other governments to them, is an important aspect of this report.

Growth

The rate of growth of the economy (the term is being used here in the narrow sense defined above) would be optimal, by definition, in the absence of the kinds of market imperfections briefly discussed above. Individuals would make their own decisions concerning the amount of work versus leisure; the rate of saving (investment) would simply reflect the rate at which individuals discounted the future; technological advance would not be inhibited by the inability of those who invested in it to capture all of the benefits; and so on.

7 A pecuniary spillover effect would be one that, for example, changed product or asset prices. A non-pecuniary spillover would be, for example, air pollution arising in a neighbouring jurisdiction.

In point of fact, none of these assumptions is valid. This, in and of itself, can be used to justify state intervention. In addition, governments may decide, for any number of reasons, that individuals tend to undervalue future consumption relative to what is 'appropriate' from a social point of view. They therefore adopt measures designed to induce more saving-investment than individuals, acting as individuals, would undertake.

The relevant analytic question for this report is this: could PIT systems, properly structured, constitute the most cost effective means by which to offset the imperfections that lower the growth rate and/or to induce more saving-investment than otherwise would take place even in the absence of these imperfections?

What follows is an attempt to indicate some of the factors involved in such an analysis:

Problem: to increase real per capita output in Ontario on a long-term basis (full employment is assumed) by:

- increasing the fraction of those of working age in the labour force and/or their hours of work;
- increasing the proportion of skilled labour in the supply of labour in Ontario;
- increasing real investment in Ontario-located enterprises (ideally this investment would embody the most recent technological advances).

Assumption: by manipulating the PIT structure it is possible to reduce the rate of tax on the income derived from additional supplies of skilled labour and additional investment (with offsetting revenue maintaining changes made elsewhere in the structure).

Analytic questions:

1. How responsive is the supply of skilled labour and the rate of investment in Ontario enterprises likely to be to reductions in the applicable rate of PIT?

2. Assuming the government were to make tax changes sufficient to

induce a 'significant' response in each instance, what would be the implications with respect to:

- interjurisdictional mobility of factors;
- final incidence (income-wealth distribution) after all adjustments to the tax changes;
- retaliatory behaviour of other governments?

To the extent that the tax changes in a jurisdiction are perceived to be of a 'beggar thy neighbour' type (i.e., producing negative spillovers), one might expect other jurisdictions to retaliate, perhaps by introducing even more generous PIT changes. The anticipation of such retaliation by other jurisdictions might well prevent any jurisdiction from taking the first step.

Income distribution

Most PIT structures incorporate a zero rate income bracket (called personal exemptions), with subsequent income brackets subject to ever rising (marginal) rates up to a limit. This type of structure is rationalized as being in accordance with the concept of ability to pay. More pragmatically, such progressive rate structures can be looked upon as a means for achieving, at least in the first instance, a redistribution of income, since they take relatively more tax from the rich than from the poor.[8] Because of market forces or bargaining power, some before-tax income may rise and consequently leave after-tax income unaffected by the rates; thus, the ultimate incidence of such progressive taxes may not be the same as the direct effects would suggest.

Although this would not be an economic objective, the present report can hardly ignore the possibility that Ontario might wish someday to alter the degree of progressivity built into the existing federal PIT rate structure. This possibility raises questions concerning the likely economic effects of such variations.

Any changes in the PIT structure designed to enhance the realization

8 The notion that low marginal rates apply only to the poor is, of course, as erroneous as it is widespread. Because of concessions of one kind or another, and tax planning, an individual's taxable income may be only a small fraction of his or her total income.

of economic objectives are bound to have income-wealth distribution effects. To the extent that the province has a set of particular distributional objectives, these indirect effects may be considered so perverse as to rule out an otherwise desirable structural change. It is therefore important to analyze the likely distributional impact of structural changes in PIT designed to achieve strictly economic objectives.

ESTIMATED EFFECTS ON POTENTIAL GNP OF ALTERNATIVE POLICY CHANGES

The preceding section sketched the conceptual framework that is used in this report to analyse and assess, among other things, the impact of possible personal income tax or other policy changes on potential GNP. This section gives the results of some simulation experiments carried out to assess the likely magnitudes of the effects on potential GNP of changes in some of its major determinants. These results provide a much-needed perspective from which to consider the magnitude and timing of the impact on potential GNP of possible changes in a PIT system or other policy changes.

All of the policy changes contemplated in this report should be viewed as possible improvements in static efficiency that would yield 'once-and-for-all' increases in the level of potential GNP. In point of fact, changes that increase static efficiency do not raise the level of potential instantaneously. Rather, such improvements raise the level gradually over time. Consequently, when one examines the estimates of the likely changes in potential GNP as a result of possible policy changes, the static efficiency gains in potential GNP are indistinguishable from the dynamic efficiency improvements. The potential GNP simply grows more rapidly than it otherwise would over a relatively short time period - say a decade.

In other words, the analysis distinguishes static-dynamic efficiency. This is not observable in empirical estimates of the changes in potential GNP, particularly over short time periods. What is observable is an increase in the rate of growth of potential GNP. If the experiments were carried out with perfect models and the effects of improvements in static efficiency were estimated for long time periods, we would observe steady rates of growth prior to the policy change being simulated, a change in the growth rate for, say, a 5-10 year time period following the policy change, and then a return to the steady state growth rate.

Obviously, however, the level of the base to which that steady state growth rate applies is of consequence. To illustrate, consider two hypothetical examples. Suppose that potential GNP at year X is $200 billion in both instances. In Case 1, the steady state growth rate is assumed to be 2.5 per cent (real terms). It is further assumed that there are no policy or other shocks that alter this rate. By the year X + 50, potential GNP would reach $686.42 billion.

Case 2 is more complex. As in Case 1, potential GNP at year X is $200 billion. We will also suppose that for five years, that is to say until X + 5, potential grows at a steady state of 2.5 per cent. Now imagine a policy change that brings about an improvement in static efficiency. For ten years, from year X + 5 to year X + 15, the real growth rate increases to 3.0 per cent. By the end of X + 15, the policy shock has 'worked itself out', with the result that for the period X + 15 to X + 50 the steady state growth rate of 2.5 per cent resumes. Under such a set of assumptions, by the year X + 50 the potential GNP would be $721.59 billion - a level $45.17 billion higher than in Case 1.

These are the kinds of gains and time horizons that are involved when one contemplates policy changes that yield once-and-for-all changes in potential GNP. Indeed, the 0.5 percentage point difference in the growth rates over ten years assumed to eventuate between Cases 1 and 2 should be considered a major change. Changes in the growth rate resulting from policy changes are often smaller and of shorter duration than has been assumed in this example.

The purpose of the section is to provide this sense of perspective and <u>not</u> to estimate the likely impact of changes from the current Canada-Ontario PIT that might be embodied in a separate Ontario PIT. Without wishing to attack an army of straw men, it does not seem unreasonable to observe that many commentators on tax and other policy matters give, perhaps inadvertently, a misleading impression of the relative magnitudes and time frames of the consequences of policy changes, <u>even when these changes are highly successful</u>. Our object here is, therefore, to disabuse readers should they have unrealistic expectations.

The simulation experiments reported in this section were carried out by Douglas Crocker, a member of the Council's research staff, using the FOCUS model developed and maintained by the Institute for Policy Analysis of the University of Toronto. A detailed exposition of the experiment can be found in Appendix A to this chapter. Before setting forth the results,

it is essential that at least the basic features and limitations of the experiments be understood.

The concept of potential GNP

Potential GNP at a point in time reflects not what the output of the economy actually is but what it could be given the existing endowment of resources at that point in time. Actual output can be less than potential output if some of the resources, such as labour, are underutilized. The output of the economy can also exceed its potential, but only if the economy operates above 'rated capacity'. The result, by definition, is invariably an increase in the general price level - inflation.

The resource endowment consists not only of the natural resources located in the economy but also of the stocks of labour (i.e., human capital) and reproducible physical capital - machinery, equipment, structures, and facilities. Moreover, it encompasses the technology embodied in the labour and physical capital stocks. In the former case, this includes the education, training, and experience of labour.

The word 'inheritance' perhaps better conveys our meaning than the technical term 'endowment'. Potential GNP at a point in time is simply the end result of myriad prior 'utility' decisions by individuals concerning birth rates, migration, work versus leisure, and consumption versus saving, together with decisions concerning the allocation of that saving among alternative investments in human and physical capital. These decisions reflect not only the preferences of individuals but all prevailing relative prices and the individual's wealth 'inheritances' or 'endowments'. In the past, much has been produced and much has been consumed. What we are capable of producing and distributing now is basically a reflection of the size and quality of the residual.

The Canadian and Ontario economies are now operating substantially below their potential. Peter Dungan of the Institute for Policy Analysis has developed a set of ten-year projections for both economies using the FOCUS and PRISM models of the Institute.[9] By modifying certain important assumptions, a full employment projection for the two economies was developed for the years 1985 through 1995. The simulation experiments

9 See P. Dungan, D. Crocker, and G. Garesché, The Ontario Economy 1982-1995 (Toronto: Ontario Economic Council), 1983.

carried out by Douglas Crocker that are reported here took the full employment values of the Canadian economy for this period as the 'base case' - the starting point from which to assess the possible impact of changes in a selected number of diverse determinants of potential GNP on its value. The FOCUS model, a general equilibrium model, was then used to estimate what Canadian potential GNP would be after nine and ten years, namely in 1994 and 1995, if the selected determinants were each increased by 1 per cent or 10 per cent (in the labour supply experiment, the participation rate of women aged 25-54 was increased by 1 and 5 points, equivalent to 2 and 10 per cent increases). The experiment was made on a 'one change at a time' basis in order to isolate a given change's impact from other shocks that would also alter the growth of potential.

Because the FOCUS model is a general equilibrium model, changing, say, the labour supply sets off a chain reaction throughout the modelled economy; that is, many other variables also change as a consequence of the assumed initial change made for purposes of the simulation experiment.

In order to emphasize the relatively small size of the resulting changes in potential GNP, the impact of the changes in the determinants of potential is expressed in real absolute dollars of potential GNP for 1994 and 1995 with and without the change in the determinant. This is to emphasize the point made earlier with respect to our Case 1 and Case 2 hypothetical growth rate situations. Major changes in policy that are effective in bringing about significant changes in the determinants of potential GNP do not transform the potential level of output over a decade.

Calculations made inside and outside the model

Virtually all models, whether theoretical or quantitative, are partial. That is to say, they do not purport to take into account everything that is going on in the world from 'the price of tea in China', to each and every variable that affects the investment decisions of every corporation. For every model some variables are treated as 'endogenous' or internal to the model, and others are treated as 'exogenous' or external to the model. Those using a model must somehow or other arrive at values for exogenous variables and 'feed them into' the model. The U.S. interest rate may be used as an example.

Because the U.S. economy is both large and comparatively closed vis-à-vis the rest of the world, the U.S. interest rate is determined

largely by decisions, both private and public, made inside that economy. And models of the U.S. economy would usually treat the U.S. interest rate as an endogenous variable - a value to be estimated by means of the model that would take, let us say, the growth of the U.S. money supply as exogenous. The analyst using such a model would have to make 'guestimates' about the future policies of the Federal Reserve Bank (and many other variables). The model would then estimate the future values of the U.S. interest rate variable.

A Canadian model would, by contrast, treat the U.S. interest rate as exogenous. The analyst would have to make assumptions about future U.S. interest rates or, perhaps, 'feed into' the Canadian model the interest rate estimates derived from the U.S. model. (This is the procedure used in the FOCUS model.)

This is a vitally important distinction to keep in mind in considering the simulation results reported in this section and in Appendix 6A. For the technique that has been followed treats each of the changes in the determinants of potential GNP used in the simulations as a separate, exogenous 'shock'[10] to the economy. What the model provides are general equilibrium results of the effects of the shock on the level of potential GNP in 1994 and 1995. All the other assumptions embodied in exogenous variables are the same for both the simulation experiment and the 'base case'.

To make the point in a slightly different way, one starts with a full employment base case of the Canadian full employment potential GNP in 1985. The base case itself, and projections of the base to 1994 and 1995, result because assumed values have been given to a large number of exogenous variables. For the simulation experiments reported here, a shock is introduced to the base case value of, say, the labour force participation rate for 1985. It is further assumed that the participation rate remains at that level until 1994 and 1995. The results given by the model therefore represent estimates of the value of potential GNP in 1994 and 1995 with and without this increase in the participation rate.

It is important to recognize that the simulation experiment <u>per se</u> does <u>not</u> model the causes that bring about this increase in the labour force participation rate. It is as though the analyst were to say to the model 'don't ask me why the participation rate increased by 10 per cent over the

10 'Shock' is the term used for an exogenous change introduced for the purposes of the simulation - a change that is not explicable in terms of the model itself.

ten year period - just tell me the most likely consequences on the basis of past experience.'

The provisions of a particular personal income tax system are only one possible determinant of the participation rate - indeed, compared with other things, they may be relatively unimportant factors. (The possible significance of alternative PIT provisions with respect to the labour supply is discussed in Chapter 8.) The same holds true for separate experiments carried out with respect to exogenously determined changes ('shocks') in the personal saving rate (Chapter 10), the fixed capital investment rate, and the user cost of capital (Chapter 11).

The argument, therefore, is this: if the Canadian economy were operating at full potential and changes in the existing PIT were made, and if these PIT changes were to bring about changes of alternative size in the labour force participation rate or the personal saving rate or the investment rate or the user cost of capital, then this in turn would generate, with respect to each of them taken separately, the estimated changes in potential GNP, over a nine to ten year period.

To restate: what is being offered then is a set of 'best guess' estimates of the consequences of certain arbitrary and exogenously determined changes in labour force participation, personal saving rates, investment rates, and the user cost of capital (each estimated separately and assuming that one starts with the Canadian economy operating at full potential and that the exogenous changes are in effect for approximately ten years) that conceivably could arise from changes in the existing PIT. But it is not claimed that they would do so.

The reason why these possible PIT changes and their effects on labour force participation, the personal saving rate, etc. are treated exogenously is that the FOCUS model, like all others, takes into account PIT changes at a level of structural detail that is far too simplistic for the present purpose, although it is perfectly adequate for other common uses of the model. Ideally what is required, therefore, is the development of detailed sub-models of, say, the determination of the labour supply that would incorporate, along with many other things, the capability of dealing with a wide range of alternative, detailed PIT provisions. With such a submodel available, the PIT change experiments could be carried out 'off line' as it were, and the results, which would be exogenous to the FOCUS model, could then be 'fed into' it and the general equilibrium consequences derived. This is the way that U.S. interest rate results that are gener-

ated by models of the U.S. economy are fed into the FOCUS model as the values of this exogenous variable.

This could in fact be done for the user cost of capital variable because, as is explained in Chapter 11 and especially in Appendix 11A, a model designated TAX that takes into account, in considerable detail, the alternative provisions of the PIT (and the CIT for that matter) has been developed for this report. As it turns out, however, there are strong a priori reasons for believing that, in a small, open economy such as Canada-Ontario, PIT changes would not significantly change the domestic user cost of capital except in quite special circumstances.

Because of time constraints, the results of the TAX model were not used to provide the simulation results given in Table 6.1 below; yet it is instructive to consider the chain of logic and fact that would be involved in estimating the effects of, say, a more generous PIT treatment of the income of Canadian residents derived from Canadian corporations. Here are the basic steps, given such a change, set forth as questions:

1. To what extent is the more generous PIT treatment of dividend income capitalized in the price of shares?

2. Assuming, for the sake of illustration, a partial rise in share prices, what effect would this reduction in the cost of equity capital have upon the cost of finance? (That is, how important is the cost of equity relative to other costs of finance?)

3. Given a reduction in the cost of finance, what would be the effect on the user cost of capital given corporate tax rates, concessions, depreciation, and so on?

4. Given a reduction in the user cost of capital, what is the elasticity of corporate gross fixed capital formation to changes in user cost?

5. Given an increase in the investment rate, what effect would this have on labour productivity and thereby on potential GNP?

There are at least five factual relationships involved, and each of the estimates concerning them is surrounded by uncertainty - more uncertainty for some than for others. By treating the simulation experiments as the

TABLE 6.1
Summary of simulation results of hypothetical growth-stimulating policies on potential GNP[a]

	Potential GNP (millions of 1971 $)			Potential GNP growth rate (annual averages in %)	
	1985	1994-95 average	Difference between policy scenario and base case for 1994 and 1995 average	1985-95	Difference between policy scenario and base case
Base case	153,470	214,017	n.a.	3.56	n.a.
Increased labour force participation rates[b]					
1 point	153,470	214,800	+783	3.60	+0.04
5 points	153,470	217,358	+3,341	3.73	+0.17
Increased saving rate					
1 per cent	153,470	214,198	+181	3.57	+0.01
10 per cent	153,470	215,553	+1,536	3.64	+0.08
Increased investment expenditure					
1 per cent	153,470	214,416	+399	3.58	+0.12
10 per cent	153,470	217,735	+3,718	3.75	+0.19
Reduced user cost of capital					
1 per cent	153,470	214,296	+279	3.58	+0.02
10 per cent	153,470	216,817	+2,800	3.70	0.14

a See Appendix 6A for the details of the simulations.
b The labour force participation rates of women aged 25-54 were raised 1 and 5 points, which approximately corresponds to 2 and 10 per cent increases.

results of alternative arbitrary assumptions, starting at point (4) in this illustrative example, the sensitivity of results to these assumptions can be tested without pretending to know the strength of most of the preceding links in these long chains of logic and fact. This is the procedure that was followed in generating the estimates given below.

The determinants of net effects

While one can contemplate an increase in the labour force participation rate that is not offset by reductions in other things that are taken into account in the estimates of actual GNP (e.g., quantity of leisure or quality of child care), the changes in the other exogenous variables considered, namely personal saving, capital investment, and the user cost of capital would each be accompanied, in a fully employed economy, by opportunity costs that must be reflected in the simulation. An increase in domestic personal saving, for example, unless offset by a reduction in saving from other sources, necessarily entails less private or public consumption. Interest is directed primarily toward the net effect on potential GNP, not the gross effect of the savings change. The treatment of the offsets for each exogenous variable, where it is relevant, is explained in detail in Appendix 6A.

The results of the simulation experiments reported in detail in Appendix 6A are summarized in Table 6.1.

The simulations have been carried out for Canada as a whole. It would be possible through the PRISM model to derive estimates for Ontario as such. But this would be essentially a 'mechanical' transformation that would not alter the relative magnitudes.

Table 6.1 reinforces the point previously discussed: the effects on potential GNP of changes in the determinants (or the factors affecting the determinants) are not large. The real dollar impact on potential GNP is largest, at $3.7 billion in each of the final two years, when investment expenditures rise by 10 per cent. However, this corresponds to a growth rate for the 1985 to 1995 period that is only 0.14 percentage points more than the base case growth rate of 3.56 per cent. It is interesting to note that the five point increase in the labour force participation rate encourages the second largest increase in potential GNP, because the present labour force and past investment enter directly into the calculation of economic potential. Therefore, were the government to adopt increasing

potential GNP as a policy target, it can be inferred from the model that those policies that enter directly into the determination of potential GNP are the most efficient. That is, by increasing effective labour supply and capital investment directly, more is achieved per percentage point increase than by proceeding indirectly by, say, increasing personal saving or by, say, reducing the user cost of capital. Note, however, that this does not compare them with respect to their revenue costs - the crucial cost-effectiveness comparison.

The most notable results of the simulations are the low estimates for the increase in the growth rates. Policies directed towards stimulating savings as opposed to current consumption are projected to increase the average growth rate of potential GNP by only 0.01 and 0.08 percentage points for a 1 per cent and 10 per cent increase in savings respectively. The low estimates in this simulation arise primarily because Canadian interest rates are unable to deviate from the prevailing world rate for a long period of time. The simulation of a lower user cost of capital demonstrates a more effective method of stimulating potential GNP indirectly than through the savings rate. However, the growth rates of potential GNP are projected to rise by only 0.02 per cent and 0.14 per cent. These relative magnitudes should be firmly borne in mind when considering the potential PIT and other policy changes discussed in subsequent chapters.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. This chapter has no immediate implications for the issue this report seeks to address: would a separate Ontario PIT system provide the treasurer of the province with an additional policy instrument that potentially could be used to generate net economic benefits for Ontario residents that could not be realized in other ways? Rather it provides a conceptual framework and some quantitative estimates on which the analysis that must underlie the 'answer' can be based.

2. Although, as is emphasized in the next chapter, economic stabilization and growth problems are inextricably intertwined, it is important conceptually to differentiate them. The stabilization problem is to ensure, through suitable government policies, that the economy operates at its full real GNP potential. By definition, when the eco-

nomy operates below its potential, the factors of production, most notably labour, are unemployed or underemployed and the means to the satisfaction of our material needs and wants are sacrificed. By definition, when the economy operates above its potential, the general level of prices rises. This creates severe inequities and is usually highly destabilizing, as western nations have discovered and continue to discover.

3. The stabilization issues that are germane to our topic are these: can a province adopt any policies that would be effective in the further realization of our stabilization goals, bearing in mind the exclusive federal jurisdiction over the determination of the money supply? If the answer is in the affirmative, the next question to be addressed is whether or not the limitations on the degree of freedom accorded the province under the existing PIT arrangements, or some modifications in those arrangements that would be acceptable to the federal government, would create a significant barrier to the adoption of the most effective provincial stabilization policies, given the availability of other policy instruments.

4. The failure to keep the economy functioning at its full potential at all times has adverse effects on the future level of that potential because investments in human and physical capital are, sooner or later, less than they otherwise would be. And with a smaller capital stock future output must necessarily be reduced. Deviations from potential by reason of unemployment or inflation are not, however, the only cause of lower levels or rates of growth of potential GNP. Increasing static efficiency can also bring about once-and-for-all increases such that the level of potential and increased dynamic efficiency can increase the ratio of growth of potential output on a sustained basis. By removing the sources of these inefficiencies that arise because of inherent market imperfections or imperfections introduced by perverse government policies, including tax policies, the growth of output as conventionally measured can be increased, if not for ever at least for sustained periods. Moreover, governments may decide to pursue as a collective objective growth-enhancing policies that would, if successful, result in more future output than would be obtained even in the absence of market imperfections.

As this chapter has emphasized, leaving aside the difficult but vitally important question of the rate of embodiment of improving technology in our human and physical capital stocks, the critical determinants of the growth of potential GNP are the increases in quantity and quality of the effective labour supply and the increases in net investment that increase the stock of physical capital. Increasing net investments in human and physical capital necessarily entails reducing current consumption, private or public, foreign or domestic, in a fully employed economy. This means that the role of saving as a necessary concomitant of potential augmenting investment is relevant to our analysis.

5. In order to provide some much needed perspective on what can be accomplished in increasing potential GNP by its major determinants, some simulation experiments were conducted using the FOCUS model. It was found that even with substantial increases in the effective labour supply (i.e., by increasing female labour force participation rates of about 10 per cent, over a period of about 10 years), potential GNP increased by only $3,341 million relative to $214,017 million - the 'base case' no policy change estimate. This is an increase in the average annual growth rate of less than one-fifth of one percentage point (i.e., from 3.56 to 3.73). The results are almost identical for a 10 per cent increase in investment expenditure over the same 10 year period.

This means that even if policies are extremely effective in increasing directly the determinants of potential GNP, dramatic results over the intermediate term, say of ten years, cannot be expected.

What is even more important, given the issue this report seeks to address, is the finding that indirect methods of stimulating the major GNP potential determinants (that is, all of the methods encompassed by possible PIT changes) are virtually bound to produce results even less substantial than the modest results reported above. Whether even these very limited improvements could be achieved through PIT changes in any jurisdiction that has a small, open economy is the first analytic question. If the answer is in the affirmative (at least in part), the second question is whether or not other policy instruments would be at least as cost effective or more cost effective. With an answer in the negative, the third question is

whether the requisite modifications could be made under the existing federal-Ontario PIT system. If the answer is again in the negative, the fourth question is whether or not unilateral changes made by Ontario in its own separate PIT system would be likely to be offset or more than offset by retaliatory moves by other jurisdictions. If the probabilities attached to retaliation are acceptably low, and the responses to the other questions are 'appropriate', a plausible economic case can be made for a separate PIT.

The report must, therefore, search for theory and for empirical evidence to answer each of these questions for each of the major potential GNP determinants - the last question being put to one side, as has been stated earlier, because of the necessarily speculative nature of this 'answer'.

Appendix 6A
A note on potential GNP and policies to stimulate growth[1]

A change in a government tax policy will not only affect the government's revenues but may also alter the utility maximizing choices of the consumers, investors, workers, and employers in the economy. The purpose of this note is to provide some evidence on the possible magnitudes that tax changes may have on the economy's potential to produce - i.e., potential GNP. To answer this question, the following approach was adopted. The first section below introduces the concept of potential GNP, the factors that affect it, and the model employed in this paper to measure potential GNP. The next section presents a set of simulations. These were designed to outline the approximate range of consumer-investor and labour supply responses to policy changes and show how much more potential GNP would rise as a consequence. The third and final section is a concluding note.

POTENTIAL GNP AND THE FOCUS MODEL

Potential GNP may be thought of as that level of output which does not induce a change in the rate of inflation. Implicit in this definition are several important points.[2] First, the level of output consistent with potential GNP will employ all the economy's resources in each period up to the point where appreciable upward pressure on prices becomes apparent. Thus, a positive unemployment rate - the natural rate of unemployment - and less than full capacity utilization of the capital stock are consistent with an economy operating at its potential. Second, the level of potential GNP must be sustainable over a lengthy period. This recognizes the fact

1 This chapter is based on work by Peter Dungan, Douglas Crocker, and D.G. Hartle.

2 See Peter Dungan and T.A. Wilson, Institute for Policy Analysis Report, Series Number 10, 1982, 2-10.

that the economy can over- or under-produce in the short run - overtime work as a reaction to an economic upturn is an example of a nonsustainable response - without a change in the inflation rate. Effectively, this qualification in combination with the first means that potential GNP will equal the full employment/non-accelerating rate-of-inflation level of output. Therefore, in an economy operating at full employment, the level of real GNP will equal the economy's real potential. Naturally, though, the measured level of real GNP may at times be - and most often is - less or greater than potential GNP. Third, the economy's ability to reach its potential in any given year is dependent upon the efficient allocation of resources by the marketplace and through government intervention. Potential output cannot be increased by a simple reallocation of resources among industries. Fourth and finally, the level of potential GNP in any period is dependent upon the set of productive resources - labour, capital, and technology - allocated to it in that period. That is, potential GNP will be a function of the amount of labour supplied, the quantity of working capital in that period, and the technology applied in combining the two primary inputs.

Labour decisions are made by individuals in each period. They reflect the individual's desire to attain the work-leisure mix which will maximize his utility subject to the effective wage constraint he faces.[3] Clearly, if changes in the PIT rates alter the wage constraints faced by individuals, then the amount of labour supplied will change in that period, affecting potential GNP.[4] Similarly, the capital stock, because it is the sum of past investment decisions, may be seen to ultimately depend upon utility-maximizing decisions which may be affected by government tax policies.[5] Investment expenditures will be undertaken provided the discounted revenue flow resulting from the additional capital stock generates non-negative economic profits. Government policy changes can impinge upon investment decisions by altering either the after-tax revenue flow or

3 The background paper prepared by Samuel A. Rea, Jr. presents a brief restatement of the relationship between PIT tax rates, effective wage rates, and labour supply.

4 The reader is again referred to Rea for the details. The important thing here is to realize the possible connection between tax rates, individuals' utility maximizing decisions, the quantity of labour supplied, and the level of potential output.

5 The background paper to this study by Boadway and Bruce summarizes the literature and issues on saving and investment. Chapters 9, 10, and 11 of this report also address this issue.

the quantity of savings available to finance the investment. In the former case, investment would increase as after-tax revenues rise because the larger discounted value resulting from the rise would generate more investment opportunities with positive economic profits, ceteris paribus. In the latter case, provided the increased savings resulted in a lower interest rate, the costs of acquiring capital would be less. Thus, more investment projects would become viable, increasing the capital stock and adding to potential GNP.[6] The important point here is that potential GNP is a function of past and present decisions which determine this period's endowments, and that it may be possible to alter these decisions and therefore the economy's potential in the future through tax revisions.

Growth in potential GNP can arise from three sources: increased labour supply, a greater working capital stock, and greater productivity resulting from technological improvements. Three of the possible avenues through which tax changes can encourage potential GNP growth were outlined above. It must be emphasized that while stimulating potential output may be a desirable target, it is by its very definition a long-run target. Therefore, tax revisions designed to stimulate potential should not be portrayed as short-term stabilization policies.[7] Indeed, they may even be destabilizing. Suppose, for example, that a tax exemption encouraged the additional participation of adult women in the labour force. Clearly the larger labour supply would result in greater potential output. However, the same policy would also be destabilizing in the short run, unless all the new entrants became immediately employed, as the measured unemployment rate would rise. Not all policies would have this peculiarity. An investment incentive program - if undertaken during a cyclical downturn - would both be stabilizing and contribute to long-term potential output growth. The important point to remember when designing taxation policy is that a short-term cyclical policy may have long-run structural effects and impact on potential output. Obviously the reverse is equally true.

The next section presents the results of four simulations designed to assess the impact on potential GNP of alternative changes for four factors.

6 As the readers of chapters 9, 10, and 11 will be aware, the relationships between rate of return, savings, and investment are uncertain. We have tried to indicate this through the use of the conditional. This point is clarified further at the beginning of the next section.

7 See Chapter 7 for a discussion of stabilization policies and Ontario's role.

These are:

1. an increase in the supply of labour;
2. an increase in the savings rate;
3. an increase in investment expenditures;
4. a decrease in the user cost of capital.

All simulations were run on the FOCUS model, which is a simultaneous, multi-equation econometric model of the Canadian economy. FOCUS does not have a specific variable to measure potential GNP, but the real GNP variable can be used as a proxy for potential GNP provided the economy is at full employment and the inflation rate is relatively constant. Under these conditions, the real GNP variable generated by FOCUS will conform to the definition of potential GNP given earlier in this section.

Before proceeding to the results, it is useful to present in detail the method by which the impact on potential GNP is assessed. In order to derive an estimate of potential output, the following steps were performed. First, the economy was set at full employment (with the unemployment rate equal to the natural rate and with high capacity utilization of the capital stock) from the present to the end of the simulation period. This full employment case was projected out through 1995 and is called the control solution. Second, all the simulations reported here were run on the period 1985 through 1995. The two steps were taken partly to prevent the present cyclical position of the economy from biasing the results, but also so that the real GNP variable generated by FOCUS would be consistent with our definition of potential GNP. That is, real GNP will approximate and be consistent with our definition of potential GNP if and only if the economy is at full employment.

Because the control solution is at full employment throughout the simulation, we now have estimates of potential GNP for each year from 1985 through 1995. The full employment economy is then 'shocked' by each of the four simulation experiments in turn. For example, the labour supply is increased by increasing the participation rate of women aged 25-54[8] for each year in the simulation. That is, if the participation rate of this

8 Chapter 8 on labour supply indicates that this group is the most likely to alter its behaviour in response to changes in personal income taxes. The reader must be cautioned that the response is uncertain and based upon evidence which is controversial.

group is 0.40 in 1985 through 1995 and we expect the tax change to increase increase the participation by 0.01, then the model is told to add 0.01 to the participation rate in all years. The FOCUS model then solves for real GNP - our proxy for potential GNP - for each year through 1995. It is assumed that by the final two years of the simulation period the economy will have absorbed the increased labour supply and reverted to a stable long-run-full-employment growth path. Therefore the real GNP variable generated by FOCUS will again approximate potential GNP. Then the difference between real GNP calculated in the control solution and the real GNP generated in the experiment will by the end of the simulation period be the increase in potential GNP attributable to the greater participation of women in the labour force.

The advantage of using FOCUS is due to its simultaneous nature. FOCUS will take account of all the direct and indirect effects of each of the experiments. For example, the increased labour supply will initially raise the unemployment rate, causing downward pressure on wages which will be reflected in the selling prices of goods, earned income, the government balance, etc. These results will in turn eventually feed back into the labour market. Therefore, we should not expect to see the variable which was 'shocked' by, say, 1 per cent to show a 1 per cent increase in the reported results.

THE SIMULATION RESULTS

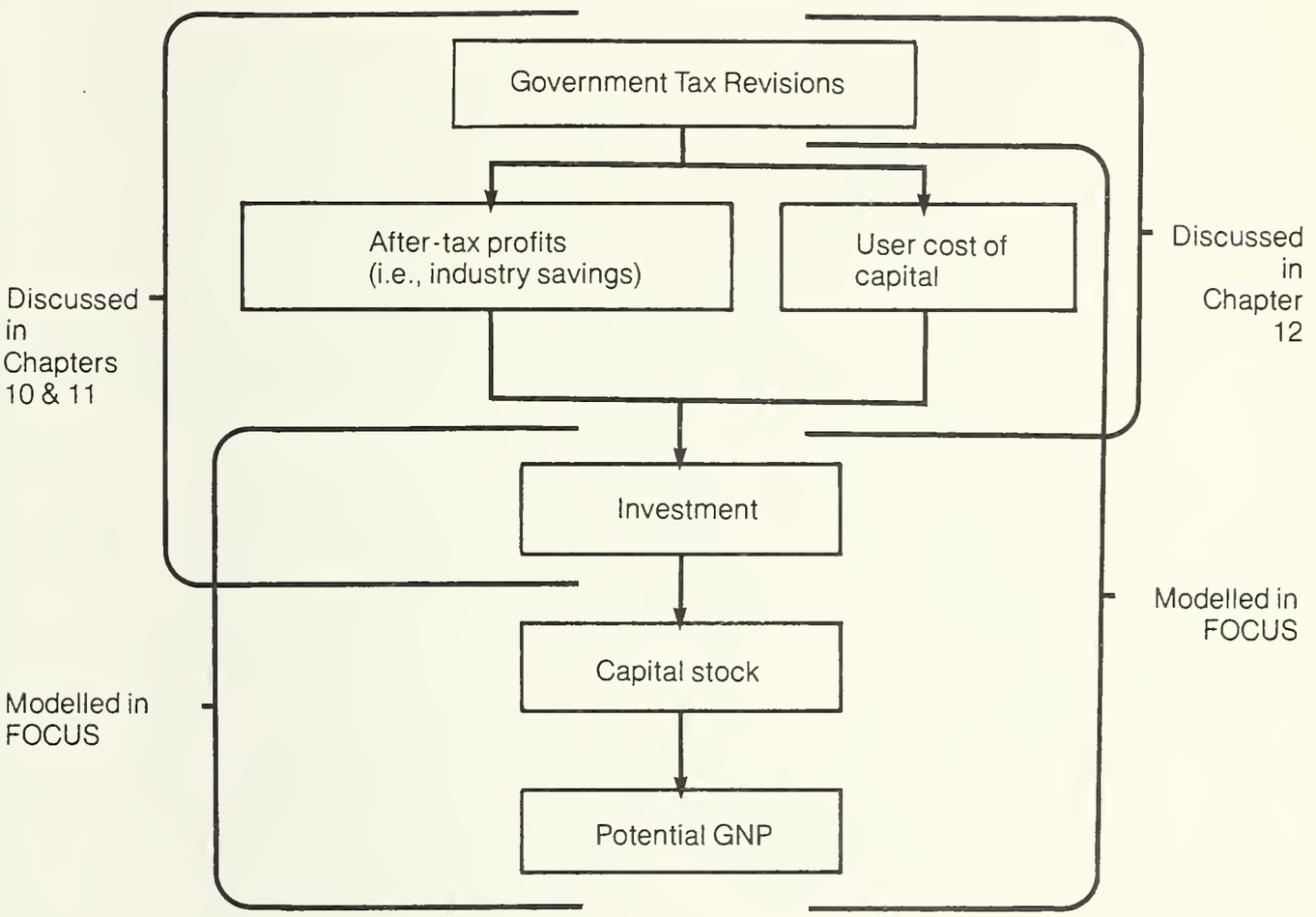
In this section the results of the four simulations - increased labour supply, increased investment, a higher savings rate, and a lower user cost of capital - are presented. The purpose of the simulations is to give an estimate of the effect on potential GNP of each of these factors. All were chosen because of the impact they might have on potential GNP, and also because tax changes are likely in the case of these factors to alter the underlying maximizing problem in a predictable way. It is vitally important to realize that the simulations do not include the tax revision which induced the proposed change. That is, the simulation begins with either the increase in the participation rate, savings rate, or investment expenditures or the decrease in the user cost of capital. Implicitly, there is a tax revision that is offset by adjusting all other taxes in the opposite direction so as to keep the government balance at control level solutions,

ceteris paribus.[9] For example, imagine an increase in the tax exemptions for savings. The revenue cost to the government is then exactly offset, implicitly, by raising all other taxes so that the price of savings falls relative to all other goods. Therefore, the utility maximizing agents in the economy will readjust their portfolios from current consumption towards future consumption, i.e., towards saving in the present period. It is at this point that the simulation begins. Figure 6A.1 demonstrates this point, using the increased investment expenditure and the lower user cost of capital experiments as examples.

Figure 6A.1 shows a simplified flow chart identifying where the investment expenditure and user-cost-of-capital experiments begin. In the former case, the simulation begins with investment increasing and feeding through to potential GNP. The proceeding steps, from the government policy change to after-tax profits to investment, are discussed in Chapters 10 and 11. In the latter case, the FOCUS model begins with changing the user cost of capital and simulates the effect on potential GNP. Exactly how government tax policy affects the user cost of capital or whether in fact it can is discussed in Chapter 12. In effect, these simulation experiments pose the following question: 'There was a government policy change - the revenue impacts of which were offset by marginal changes in all other taxes - which resulted in, say, increased investment expenditures in Canada; what is the impact on potential GNP?' Given that there is a great deal of uncertainty regarding how strong an effect the government tax revision will have or whether it will have any effect at all, a range of estimates has been produced. In the limiting case of no effect, then the base case estimate of potential GNP will also be the post-tax change case, and the net effect will be zero. On the other hand, if the tax change does induce the desired response and given that the background papers to Chapters 8 through 11 indicate the response is unknown, then we clearly need a range of estimates. Therefore, each simulation consists of two

9 There are of course alternative methods of approaching this problem. The most obvious is to model the change explicitly. This method was not adopted because the tax change would involve revenue changes and these would have implications for the government deficit, borrowing requirements, interest rates, and investment decisions, and consequently for the future capital stock and potential output. It was decided to eliminate these second-round effects and that the best method would be to implicitly offset the tax revision with a series of other tax changes. In addition, subsequent chapters fully discuss the feasibility and consequences of tax changes affecting labour supply,

Figure 6A.1



runs, one with a 1 per cent increase in the instrument and another with a 10 per cent increase in the instrument.[10]

Table 6A.1 presents a summary of the final two years of the simulation with greater labour force participation. It was implicitly assumed that a reduction in personal income taxes would serve to increase the participation of women aged 25 to 54 in the labour force. The results in Chapter 8 indicate, albeit inconclusively, that the group is more sensitive than others to personal income tax revisions. As a result, the real GNP variable generated by FOCUS, which is in our case an appropriate proxy for potential GNP, shows an average increase of 0.36 per cent over the

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savings behaviour, investment decisions, and the user cost of capital. As the reader of those chapters is aware, the evidence regarding the effect of tax changes on these factors is uncertain at best.

10 In the labour supply simulation, participation rates of women aged 25 to 54 were raised 1 point and 5 points, corresponding approximately to a 2 per cent and 10 per cent increase in the rates. The word 'instrument' refers to the variable which was 'shocked'.

TABLE 6A.1
The impact of increased labour force participation

Summary of projections (Percentage change from control solution; * indicates change in levels)	1 Point		5 point	
	1994	1995	1994	1995
Gross national product	-2.29	-2.42	-10.34	-10.56
Implicit price deflator for GNP	-2.58	-2.84	-11.40	-12.25
Real gross national product	0.30	0.43	1.2	1.91
Expenditure on personal consumption	-0.05	-0.08	-0.24	-0.37
Expenditure by governments	0.0	0.0	0.0	0.0
Investment expenditures	0.04	0.44	-0.29	2.03
Residential construction	0.98	0.81	4.39	3.46
Non-residential and machinery & equipment	-0.15	0.36	-1.26	1.75
Exports	0.65	0.94	2.64	4.12
Imports	-0.64	-0.61	-3.09	-2.70
Capacity utilization rate*	-0.00	0.00	-0.00	0.01
Unemployment rate*	0.19	0.11	1.06	0.62
Employment	0.33	0.45	1.43	2.13
Narrowly defined money supply, M1	-0.00	-0.00	-0.00	-0.00
Finance co. 90-day paper rate*	-0.51	-0.54	-2.41	-2.47
Industrial bond rate*	-0.51	-0.55	-2.28	-2.49
Consumer price index	-2.14	-2.21	-9.51	-9.61
Average annual wages and salaries	-2.55	-2.94	-11.40	-12.97
Productivity changes (GDP/employee)	-0.04	-0.04	-0.26	-0.32
Exchange rate (US$/CDN$)	2.11	1.75	10.37	8.39
Terms of trade (PX/PM)	-0.60	-0.93	-2.54	-3.96
Balance on current account ($ mill)*	3461	3225	14798	13476
Change in foreign reserves ($ mill)*	0	0	0	0
Consolidated government balance ($ mill)*	-2038	403	-9780	2214
Personal savings rate (%)*	0.19	0.05	0.84	0.19
Nominal after-tax corporate profits	-2.38	-1.18	-11.23	-5.06
Real personal disposable income	0.10	-0.11	0.37	-0.56

last two years under a 1 point increase. This corresponds to an average potential GNP of $214,800 million dollars in the last two years in comparison with the control solution potential GNP of $214,017 million. Therefore, the increased labour supply generated an average increase in potential GNP of $783 million. In the more severe case, where the underlying tax change generates a 5 point increase, potential GNP rises by 1.2 per cent in 1994 and 1.91 in 1995. This corresponds to an average increase in potential GNP of $3,341 million in each of the last two years.

The large and persistent increase in the labour force acts to depress wages slowly but gradually. The lower cost for labour is reflected in lower output selling costs - witness the declines in both price levels reported - which act to stimulate exports and depress competing import goods. Together with investment expenditures, exports constitute the largest increase in GNE components. The unemployment rate remains higher than in the control solution even though employment has risen.

Table 6A.2 presents the summary results of an increase in investment expenditures. These could be in response to a government incentive program designed to promote investment, such as an investment tax credit. The two cases presented here are the results of simulations of a 1 and 10 per cent increase in private investment. As was the case in the increased labour force participation simulation, the results of the two runs differ only in magnitude. Real potential GNP rises relative to the control solution by an average of about 0.18 per cent and 1.74 per cent over the final two years for the 1 per cent and 10 per cent increases in investment respectively. In real dollar terms, these figures correspond to a $400 million increase and a $3,719 million increase in potential GNP over the final two years of the simulation period. Also note that investment expenditures increase by only 5.5 per cent, despite an exogenous boost of 10 per cent. This arises because the other general equilibrium effects incorporated into the model are exerting downward pressure on investment. Primary among these effects are the higher interest rates which result as firms compete for funds to finance the new investment expenditures.

It is interesting to note that prices do not fall in the investment simulations as they do in all the other simulations. In the previous case and in the next two, the 'shocks' result in a cheaper price for a commodity used in production, which implies a lower output price and in the long run a lower price level. In this simulation, expenditures on investment do not result in a lower output price. Therefore, the price level

TABLE 6A.2
The impact of increased investment

Summary of projections (Percentage change from control solution; * indicates change in levels	1 per cent		10 per cent	
	1994	1995	1994	1995
Gross National Product	0.33	0.25	3.96	3.67
Implicit price deflator for GNP	0.13	0.08	2.06	2.03
Real gross national product	0.20	0.17	1.86	1.62
Expenditure on personal consumption	0.13	0.14	1.28	1.42
Expenditure on governments	0.0	0.0	0.0	0.0
Investment expenditure	0.61	0.50	5.88	5.05
Residential constructions	0.06	0.17	0.13	1.12
Non-residential and machinery and equipment	0.72	0.56	7.08	5.85
Exports	0.09	0.03	0.64	-0.06
Imports	0.16	0.13	1.66	1.49
Capacity utilization rate*	-0.00	-0.00	-0.01	-0.02
Unemployment rate*	-0.08	-0.05	-0.75	-0.55
Employment	0.13	0.09	1.22	0.90
Narrowly defined money supply, M1	-0.00	-0.00	-0.00	-0.00
Finance co. 90-day paper rate*	0.07	0.06	0.86	0.80
Industrial bond rate*	0.06	0.06	0.80	0.81
Consumer price index	0.10	0.01	1.68	1.23
Average annual wages and salaries	0.34	0.35	3.92	4.48
Productivity changes (GDP/employee)	0.07	0.09	0.60	0.69
Exchange rate (US$/CDN$)	-0.17	0.01	-2.32	-0.87
Terms of trade (PX/PM)	-0.02	0.03	-0.19	0.57
Balance on current account ($ mill)*	-485	-330	-6378	-5379
Change in foreign reserves ($ mill)*	0	0	0	0
Consolidated government balance ($ mill)*	650	-25	8069	1971
Personal savings rate (%)*	0.05	0.08	0.31	0.65
Nominal after-tax corporate profits	-0.24	-0.73	-1.54	-5.81
Real personal disposable income	0.20	0.24	1.75	2.31

rises because increased investment expenditures constitute an increase in aggregate demand.[11]

Table 6A.3 presents the summary results of a 1 per cent and 10 per cent increase in total domestic savings. The implicit tax change underlying these simulations is a relative tax shift against current consumption and in favour of any form of savings. These results are based on the notion that tax changes would alter the personal savings rate and not merely result in a portfolio reallocation. In addition, the concerns regarding a small open economy raised in Chapters 9 and 11 reflect the difficulty of increasing the aggregate savings rate and of generating positive results therefrom. Real potential GNP is not significantly affected by the increased savings. It rises relative to the control solution by 0.08 per cent in 1994 and 0.09 per cent in 1995 in the solution with a 1 per cent increase in savings and by 0.66 per cent in 1994 and 0.78 in 1995 in the solution with a 10 per cent increase in savings. These figures correspond to an average increase of $182 million in each of the final two years for the 1 per cent increase in savings and $1,536 million for the 10 per cent increase in savings.

The increased savings have two direct effects. First, because current saving plus current consumption are an identity equal to disposable income, current consumption must decline; this occurs in the model. Second, the stock of funds available for financing increases, putting downward pressure on real domestic interest rates. This promotes investment expenditures, which add to the capital stock and increase potential output.

Table 6A.4 presents the results of a decrease in the after-tax user cost of capital, intended to reduce the costs of investment. Implicit in these two runs - a 1 per cent and 10 per cent reduction in the user's cost of capital[12] - is a tax revision along the lines of increased capital cost allowances or an accelerated depreciation rate. The average increase of potential GNP over the final two years is 0.13 per cent and 1.38 per cent for the 1 per cent and 10 per cent cases respectively. These percentages

11 It may be clearer if one thinks of the traditional downward sloping aggregate demand curve and potential GNP being represented by the vertical long run aggregate supply schedule. Obviously the shift in aggregate demand can dominate the outward shift in potential GNP, resulting in a higher price level.

12 Other work incorporated in this study indicates that an 8 per cent reduction in the user cost of capital is possible (see Chapter 11).

TABLE 6A.3
The impact of increased savings

Summary of projections (Percentage change from control solution; * indicates change in levels	1 per cent		10 per cent	
	1994	1995	1994	1995
Gross national product	-0.93	-1.06	-9.42	-10.66
Implicit price deflator for GNP	-1.01	-1.15	-10.01	-11.35
Real gross national product	0.08	0.09	0.66	0.78
Expenditure on personal consumption	-0.14	-0.17	-1.41	-1.72
Expenditure by governments	0.00	0.00	0.00	0.00
Investment expenditure	0.14	0.20	1.02	1.83
Residential construction	0.53	0.48	5.48	4.85
Non-residential and machinery and equipment	0.06	0.14	0.09	1.21
Exports	0.31	0.36	2.83	3.44
Imports	-0.26	-0.27	-2.69	-2.78
Capacity utilization rate*	-0.00	0.00	-0.00	0.00
Unemployment rate*	0.02	0.02	0.31	0.25
Employment	-0.04	-0.03	-0.53	-0.43
Narrowly defined money supply, M1	-0.00	-0.00	-0.00	-0.00
Finance co. 90-day paper rate*	-0.21	-0.24	-2.19	-2.49
Industrial bond rate	-0.24	-0.26	-2.41	-2.63
Consumer price index	-0.91	-1.00	-9.12	-9.92
Average annual wages and salaries	-0.76	-0.94	-7.59	-9.45
Productivity change (GDP/employee)	0.12	0.11	1.16	1.10
Exchange rate (US$/CDN$)	0.87	0.86	9.83	9.84
Terms of trade (PX/PM)	-0.25	-0.34	-2.22	-3.06
Balance on current account ($ mill)*	1576	1579	15288	15316
Change in foreign reserves ($ mill)*	0	0	0	0
Consolidated government balance ($mill)*	-1872	-1491	-18777	-13818
Personal savings rate (%)*	0.24	0.20	2.50	2.03
Nominal after-tax corporate profits	-0.94	-0.75	-10.66	-8.46
Real personal disposable income	0.10	0.02	1.07	0.13

TABLE 6A.4
Impact of decreased user cost of capital

Summary of projections (Percentage change from control solution; * indicates change in levels)	1 per cent		10 per cent	
	1994	1995	1994	1995
Gross national product	-0.25	-0.17	-2.54	-1.68
Implicit price deflator for GNP	-0.37	-0.32	-3.69	-3.11
Real gross national product	0.12	0.14	1.18	1.47
Expenditure on personal consumption	0.02	0.04	0.17	0.36
Expenditure by governments	0.0	0.0	0.0	0.0
Investment expenditure	0.19	0.26	1.90	2.68
Residential construction	0.19	0.21	1.83	2.07
Non-residential and machinery and equipment	0.19	0.27	1.91	2.80
Exports	0.23	0.27	2.43	2.81
Imports	-0.01	0.02	-0.13	0.22
Capacity utilization rate*	0.00	0.00	0.00	0.11
Unemployment rate*	-0.02	-0.04	-0.21	-0.38
Employment	0.03	0.06	0.33	0.60
Narrowly defined money supply, M1	-0.00	-0.00	-0.00	-0.00
Finance co. 90-day paper rate*	-0.06	-0.04	-0.57	-0.38
Industrial bond rate*	-0.07	-0.07	-0.73	-0.70
Consumer price index	-0.29	-0.24	-2.90	-2.37
Average annual wages and salaries	-0.27	-0.21	-2.77	-2.07
Productivity change (GDP/employee)	0.08	0.08	0.82	0.85
Exchange rate (US$/CDN$)	0.18	0.09	1.83	0.91
Terms of trade (PX/PM)	-0.17	-0.18	-1.73	-1.85
Balance on current account ($ mill)*	370	341	3595	3272
Change in foreign reserves ($ mill)*	0	0	0	0
Consolidated government balance ($ mill)*	282	489	2910	5294
Personal savings rate (%)*	0.02	0.03	0.22	0.28
Nominal after-tax corporate profits	-0.05	0.11	-0.59	1.29
Real personal disposable income	0.03	0.06	0.31	0.60

correspond to an average increase in potential GNP of $279 million and $2,800 million in each of the final two years.

Again, the symmetry between the two runs is apparent in both the magnitude and the direction of the impact. The decline in the user cost of capital has two effects that serve to stimulate investment. First, given the lower cost of capital, more investment projects will be economically viable. Second, real after-tax corporate profits rise, providing an additional stimulus to investment. Consequently, the simulations show that investment expenditures rise - and rise, moreover, by a percentage greater than that recorded by potential GNP.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. The estimates of the increase in potential GNP range from $3,700 million (in the case of a 10 per cent increase in investment expenditures) to $182 million (in the case of a 1 per cent increase in the savings rate). In comparison with an economy which would average $214,000 million in 1994 and 1995, these figures are relatively small. Two questions are relevant here. First, the implicit investment stimulus necessary to elicit a 10 per cent increase in the investment expenditures may be so large that the other implicit tax changes, which were assumed to offset the revenue implications, must also be large. If this is the case, then estimates will be biased upwards at the higher end of the ranges. Second, how relevant is a concept based on estimates of GNP in 1994 and 1995?[13] In part, the answer lies in the fact that the simulations represent controlled experiments. Therefore, provided the model accurately represents the economy, the percentage differences will yield an accurate estimate whether the 1995 real GNP estimate is realized or not.

2. The discussion and the results of the previous sections show that potential GNP - albeit one measured by a proxy - can be increased on the assumption that government tax revisions will either increase the participation rate, the savings rate, or investment expenditures, or decrease the user cost of capital. As indicated in this paper and in

13 The years 1994 and 1995 are also a little misleading, since all the simulations begin in 1985 and the time horizon is therefore really only eleven years.

other chapters, it is uncertain whether these results will actually occur, and if they do occur how strong the effect will be. This was demonstrated in the results by presenting a range of responses.

3. The definition of potential GNP by its very nature makes potential GNP a long-run concept. Therefore, any policy adoption designed specifically to stimulate potential must be recognized as a long-run goal. This is particularly true in certain cases, such as an increase in the labour supply, where the policy might be destabilizing in the short run. Potential GNP is useful if we think of it as an upper bound on aggregate expenditures beyond which inflationary pressures will develop. It then represents the output level to which short-run aggregate demand policies should be targeted. If further additions to output without increasing the inflation rate are desired, then potential GNP must be increased. This paper demonstrates that potential GNP can be raised through tax manipulation but that the results are not dramatic. Given this finding, government policy decision-makers should consider the effect proposed tax revisions will have on potential GNP but not adopt potential as their sole target.

7
Stabilization policy issues: an appraisal of possible roles of flexible fiscal policies in Ontario[1]

Stabilization policy can be viewed narrowly as the attempt to use policy instruments to iron out economic fluctuations or mitigate the business cycle. It can also be viewed more broadly as the attempt to improve economic performance with respect to the broad macro-economic objectives of full employment, price stability, and adequate economic growth. In this discussion the broader view is taken, because conflicts between the simultaneous realization of each pair of these objectives would rule out the single target approach implied by the narrower view. Furthermore, recent concern about the supply-side effects of fiscal policies can only be encompassed within the broader multi-objective view of stabilization policy.

An analysis of fiscal policy for stabilization would consider the impact of any changes in fiscal instruments on these macro-economic variables. Hence a set of budgetary measures designed to achieve some other objectives (such as income redistribution) could affect one or more of these broad macro-economic objectives and also be logically viewed as part of fiscal policy for stabilization. Only a set of budgetary measures that was neutral in its impact on these three objectives should be viewed as having no stabilization effect. Indeed, the recent history of federal budgets provides numerous illustrations of complex tax changes that have had important macro-economic consequences. One need only cite the major tax reform of 1972, the introduction of indexation in 1974, and the November 1981 federal budget proposals to provide appropriate illustrations. The recent White Paper proposals for introducing three new indexed investment instruments represent yet another set of measures, perhaps justifiable on grounds of equity and efficiency, that could nevertheless have important macro-economic consequences in both the short and long runs.

1 This chapter was written by T.A. Wilson.

If there was only one macro-economic objective (e.g., stabilization of real income), and there was at least one effective instrument which had minimal side effects on other objectives, then stabilization could be partitioned from the resource allocation and distributional activities of governments. The stabilization authority could always neutralize the side effects of other policies on the single macro-economic objective through appropriate manipulation of the single effective instrument. These other policies would complicate the task of stabilization, but effective stabilization would not require additional policy instruments.

With multiple objectives of stabilization policy, the task of stabilization in general requires multiple instruments. The effectiveness with which multiple objectives may be attained will, in general, increase as the number of policy instruments increases. However, some prospective policy instruments may be dominated by one or more combinations of existing instruments, such that the addition of such a policy instrument would not improve the effectiveness of stabilization policy.

The task of this chapter is to appraise the possible role of the province in stabilization policy and to consider the impact of a separate provincial personal income tax (PIT) on the potential effectiveness of provincial stabilization policy.

THE ROLE OF THE PROVINCE IN STABILIZATION POLICY

It is generally agreed that the federal government has and should have primary responsibility for the conduct of stabilization policy. Monetary policy, one of the two 'big levers' of stabilization policy, is a federal responsibility under the constitution, effectively precluding the provinces from more than a consultative role in its execution. Because the Canadian economy is a broad common market for both products and factors of production,[2] the effects of fiscal actions taken by a province (or of federal policies directed towards a province) usually spill over into other provinces. These externalities can be reinforced, attenuated, or even reversed by policy design. A decentralization of fiscal policy for stabilization to the provinces increases the risk of induced external effects and self-cancelling 'beggar thy neighbour' fiscal policies. Indeed, vigorous

2 But see the forthcoming Ontario Economic Council research study Federalism and the Canadian Economic Union, edited by J.R.S. Prichard, M.J. Trebilcock, T.J. Courchene, and J. Whalley.

use of fiscal policy to attract factors of production - particularly capital - to particular provinces would fracture the framework of the common market itself, with potentially serious economic and political repercussions.

Because the favourable external effects of provincial fiscal policies will be given little weight by provincial governments, provincial fiscal policies will likely either be too weak, or be designed to increase the impact of the policy within the province at the expense of other provinces. Hence primary responsibility for stabilization policy should be assigned to the federal government. However, this does not mean there is no role for the provinces to play. The involvement of the provinces in stabilization policy should lead to improved performance with respect to regional economic objectives. Canada has faced for some time a chronic problem of regional imbalance, coupled with greater cyclical patterns in some regions than in others. In many instances, expansionary fiscal policies could be more effective in countering recession if they were focussed on the more depressed regions. In other situations, restrictive fiscal policies would be more effective in reducing inflation (at lower cost in terms of employment and growth) if these policies could be focussed on the expanding regions. However, political tolerance of federal moves to accommodate regional disparities via a regionally discriminatory federal stabilization policy appears extremely limited, particularly in the case of restrictive fiscal policies. It follows that the use of provincial fiscal policies as an adjunct to federal policy - supporting federal policy in those provinces where the cyclical problem is more acute, and offsetting fiscal policies where the cyclical problem is less acute (or indeed opposite to that of the nation as a whole) - could improve the overall average performance of stabilization policy.

GROWTH PROSPECTS FOR THE ONTARIO ECONOMY

Before turning to an examination of new evidence of the effectiveness of provincial stabilization policies in Ontario, it is worth examining briefly the long term outlook for the Ontario economy. Fortunately, a recent Ontario Economic Council study has examined the outlook over the decade of the 1980s.[3] The following is a summary of the projections developed in that study.

3 P. Dungan, D. Crocker, and G. Garesché, The Ontario Economy 1982-1995, (Toronto: Ontario Economic Council, 1983).

1. The middle and later years in the current decade should witness some recovery from the dismal performance of recent years, but the high growth rates of the sixties and early seventies are unlikely to be repeated.

2. The Ontario economy's growth will continue to run somewhat behind the growth of the national economy, reflecting the resource-related strength of the western provinces.

3. Employment growth in Ontario is also projected to be somewhat below the national average, as migration to the western provinces continues. Productivity growth in the province will be virtually identical to national productivity growth. However, aggregate productivity growth is projected to increase at a slow 0.7 per cent annual rate over the decade. While this represents a reversal of recent declines in productivity performance, it is considerably below the rate of growth of productivity achieved over the 1960-75 period. A major factor contributing to slower aggregate productivity growth is the shift of investment towards the capital-intensive primary energy sectors.

4. Aggregate price inflation in Canada is projected to drop below double-digit rates and to average 8.8 per cent over the decade. Aggregate price inflation in Ontario is projected at 8.3 per cent. While both figures represent an improvement over the recent past, they indicate that the inflationary problem may remain serious well into the decade.

5. Ontario's nominal income share drops more rapidly than its real output share, reflecting the projected continuation of adverse movements in the terms of trade for Ontario over the decade.

6. Although Ontario's relatively strong position in manufacturing will probably diminish somewhat over the decade, over one half of the decade's manufacturing output will be produced in Ontario. Ontario is dominant (87 per cent) in the manufacturing of motor vehicle parts, and produces two-thirds of the output of electrical products. Other areas of strength include primary metals (57 per cent), machinery and other transportation equipment (56 per cent), and chemicals

(55 per cent). Ontario's share is below its pro-rata share for primary industries (agriculture and mining), construction, and utilities.

The relative concentration of manufacturing, and particularly durable goods manufacturing, within Ontario, means that the Ontario economy will remain as vulnerable to the business cycle as in the past. Moreover, because cyclical fluctuations will occur around a slower growth trend, episodes of near-zero or negative growth may continue to be frequent occurrences. Political pressures on the Ontario government to adopt countercyclical policies could well be stronger in this environment of slower growth, albeit somewhat tempered by recognition of the inflationary consequences of mistimed or misdirected fiscal measures.

In a climate of slower growth, governments may choose to direct counter-recessionary policies toward contributing to improved efficiency and productivity growth rather than toward improving equity through income redistribution. This would mean a greater emphasis on stimulus to investment rather than to consumption, and less effort to target countercyclical relief towards lower income groups.

A more flexible personal income tax would obviously widen the range of choice open to the Ontario government in focussing countercyclical fiscal stimulus to have maximum impact on investment. Whether this range of choice could be accomplished without a separate Ontario PIT would depend on the degree of flexibility possible within the existing joint federal-provincial personal income tax system. For example, if the federal government were to accept separate provincial rate schedules and to permit implementation of savings and investment credits and other growth-oriented tax credits, this would provide the Ontario government with much of the freedom of choice to adopt growth-oriented policies it would attain by establishing a separate PIT.

Since the preparation of the OEC study noted above, national growth projections have again been revised downwards. This reflects the cancellation of certain western energy projects and the impact of a more serious recession on medium-term prospects for business fixed capital formation. The point emphasized above that stabilization policy will be operating in a climate of slower growth is therefore reinforced by these more recent projections.

The next section reviews current evidence on the effectiveness of Ontario fiscal policies, utilizing the FOCUS and PRISM economic models.

EFFECTIVENESS OF PROVINCIAL FISCAL POLICIES

In an earlier review of the potential effectiveness of fiscal policy in Ontario,[4] it was concluded that the evidence available at that time indicated that Ontario fiscal actions would have a smaller relative impact on the Ontario economy than equivalent federal actions on the national economy. Although major economic effects would occur within the province, Ontario fiscal actions would also generate significant effects in other provinces. Since the preparation of that study, the PRISM model has been developed by the Institute for Policy Analysis to augment the FOCUS national model. The PRISM model develops regional and industrial projections on the basis of the FOCUS model's national projections of aggregate demand and its composition. With appropriate modifications, it is possible to use this combination of models to analyse the comparative effects of provincial and federal fiscal policies.

The details of the simulation analyses are presented in Appendix 7A. The results may be briefly summarized. Four fiscal experiments were conducted under two alternative monetary-exchange rate regimes. An increase in federal government spending on government fixed capital formation is compared with a similar increase in provincial spending on the same component of demand, with the initial spending concentrated within the province. A general federal income tax reduction is compared with a provincial income tax reduction involving the same initial absolute revenue loss, but with the initial consumer spending generated by the tax cut concentrated within the province.

The alternative monetary and exchange rate regimes include:

a. a floating exchange rate with monetary policy geared to a narrowly defined money supply target, and

b. a fixed exchange rate with monetary policy geared to maintain that exchange rate.

The results of the two national policy simulations are shown in Table 7.1. Note that the fiscal multipliers are stronger under a floating exchange rate than under a fixed exchange rate, indicating that the effects of fiscal actions on the current account of the balance of payments dominate capital account effects in the FOCUS model. The multipliers for

4 Wilson, T.A., 'The Province and Stabilization Policy' in Issues and Alternatives: Intergovernmental Relations (Toronto: Ontario Economic Council, 1977).

TABLE 7.1
National fiscal multipliers

	Year following fiscal change				
	1	2	3	4	5
A. Expenditure multipliers[a]					
Fixed exchange rate	.748	.700	.588	.534	.334
Floating exchange rate[b]	1.268	1.668	1.540	1.038	.745
B. Inverse tax multipliers[c]					
Fixed exchange rate	.243	.328	.349	.356	.257
Floating exchange rate	.504	.882	1.087	1.074	.980

a Real GNP increase per real dollar of government spending increase.
b M1 money supply growth exogenous.
c Real GNP increase per real dollar of personal increase tax reduction.

expenditures are stronger than for taxes, a common result in macroeconomic models driven primarily by real aggregate demand.

The time patterns of response indicate that there is a more rapid response to expenditure increases than to tax cuts, reflecting the lagged adjustment of consumer spending to changes in disposable income. Under a fixed exchange rate, the maximum impact on real GNP occurs in the first year of the expenditure increase, and in the second and third years following the tax cut. The fiscal effects then attenuate as crowding out occurs through price level and interest rate effects. Under a floating exchange rate, the peak response is delayed until the second quarter following the expenditure increase and until the third quarter following the tax cut, reflecting the delayed indirect effects of induced exchange rate changes.

The national multipliers are quite low in the fixed exchange rate simulations, reflecting the negative impacts of the substantial induced monetary response required to maintain the value of the Canadian dollar (M1 drops by 1.8 per cent in the first year of the expenditure increase, and by 0.9 per cent in the first year of the tax cut). Under a fixed exchange rate, the maximum expenditure multiplier is 0.75 and the maximum inverse tax multiplier is 0.36. Without these induced monetary responses, the fiscal impacts are considerably stronger. In the floating exchange rate simulations, the maximum real expenditure multiplier is 1.67, and the corresponding inverse tax multiplier 1.08.

The PRISM model provides estimated provincial and industrial distribution effects of the national policies. The results, tabulated in Table 7.2, indicate that the relative impact of the national policies on Ontario is quite comparable to their national impacts. However, the reader must be cautioned that these results apply to federal expenditures and tax changes that have no particular regional focus.

The final two pairs of simulations provide estimates of the impact of Ontario policies on the Ontario economy. For comparability with the national results, the relative magnitude of the expenditure and tax changes are assumed to be the same as for the corresponding federal policy experiments. As a result, the FOCUS model national results for the Ontario policy simulations are identical to those of the federal policies.

The impact of Ontario policies on Ontario would likely deviate from that of federal policies even if there were no specific regional bias to the provincial policies. Because many goods and services are either non-tradeable or have non-trivial transportation costs, both government spending and consumer spending will naturally be directed more toward Ontario products than is the case in the national policy simulations. Without a consistent model of the Ontario economy comparable to the FOCUS national model, the extent to which spending is shifted towards goods and services purchased in Ontario cannot be estimated with the same precision as the national effects. However, it is possible to adjust PRISM to derive rough estimates of these shifts. A discussion of the details of these adjustments is provided in Appendix 7A. Summary results of the simulations are presented in Table 7.3. As is readily apparent, the estimated impact of provincial expenditure increases on provincial output is considerably stronger than the comparable federal government spending impact. Under a fixed exchange rate, the initial impact is more than double the national impact. Moreover, the impact does not attentuate significantly over time, indicating that the crowding-out effects are shared extensively with other provinces. Under a floating exchange rate, about the same absolute changes in the relative impacts occur (the relative impacts being roughly 0.4 higher in both simulations). More illustrative are the estimated multipliers, shown in Table 7.4, which compares the national multipliers for national policies with the corresponding Ontario multipliers for Ontario policies. As is clear, the short-run Ontario expenditure multipliers are somewhat smaller than their national counterparts. In the case of government spending, the provincial multipliers are about

TABLE 7.2
Relative effects of national fiscal policies on the national and Ontario economies

	Per cent impact on gross domestic and gross provincial product in year following fiscal change				
	1	2	3	4	5
A. Expenditure increase of 500 million 1971 dollars					
Fixed exchange rate					
national (%GDP)	.26	.24	.20	.19	.12
Ontario (%GPP)	.24	.21	.15	.14	.06
Floating exchange rate					
national (%GDP)	.47	.61	.52	.32	.22
Ontario (%GPP)	.46	.62	.52	.29	.18
B. Tax reduction of 500 million 1971 dollars					
Fixed exchange rate					
national (%GDP)	.09	.13	.15	.16	.14
Ontario (%GPP)	.10	.13	.15	.16	.14
Floating exchange rate					
national (%GDP)	.19	.34	.41	.39	.36
Ontario (%GPP)	.21	.36	.44	.42	.39

two-thirds the national ones under a floating exchange rate over the first three years, and the multipliers converge by the fifth year.

Under a fixed exchange rate, the Ontario expenditure multiplier is about 85 per cent of its federal counterpart in the first year, but a convergence occurs by the third year, and by the fifth year the Ontario multiplier is 50 per cent higher than its national counterpart.

Because of greater leakages of consumer demand to other provinces and to imports, the provincial tax multipliers are relatively smaller than the expenditure multipliers. Under a fixed exchange rate, the maximum inverse tax multiplier, reached in the third and fourth years following the tax cut, is only 0.28. Under a floating exchange rate, the inverse tax multiplier builds up to 0.62 in the fourth year, which is 42 per cent below its federal counterpart.

These results suggest that fiscal policy for stabilization is feasible for

TABLE 7.3
Ontario fiscal multipliers

	Year following fiscal change				
	1	2	3	4	5
A. Expenditure multipliers[a]					
Fixed exchange rate	.63	.62	.61	.59	.51
Floating exchange rate	.82	1.03	1.02	.86	.76
B. Inverse tax multipliers[b]					
Fixed exchange rate	.20	.25	.28	.28	.23
Floating exchange rate	.30	.49	.60	.62	.58

a Real GPP increase per real dollar of provincial government spending increase.
b Real GPP increase per real dollar of provincial personal income tax reduction.

TABLE 7.4
Comparison of national and Ontario fiscal multipliers

	Year following fiscal change				
	1	2	3	4	5
A. Expenditure multipliers[a]					
Fixed exchange rate					
national	.75	.70	.59	.53	.33
Ontario	.63	.62	.61	.59	.51
Floating exchange rate					
national	1.27	1.67	1.54	1.04	.75
Ontario	.82	1.03	1.02	.86	.76
B. Inverse tax multipliers[a]					
Fixed exchange rate					
national	.24	.33	.35	.36	.26
Ontario	.20	.25	.28	.28	.23
Floating exchange rate					
national	.50	.88	1.09	1.07	.98
Ontario	.30	.49	.60	.62	.58

a As in Table 7.3.

the Province of Ontario. While the income multipliers for fiscal action are typically somewhat smaller than their national counterparts, the multipliers are not so low as to render provincial policy ineffective, at least under a floating exchange rate system. The simulations also indicate that the multiplier effects of government capital expenditure changes are considerably larger than the corresponding effects of equivalent general income tax changes. Of course, these broad aggregate results tell us little about possible supply-side effects of policies. But if one's principal concern is impact on real aggregate demand, expenditure changes appear to have the edge over income tax changes. Of course, this conclusion is weakened if expenditure changes are subject to a greater 'inside lag'[5] than tax changes, because the probability of destablizing fiscal actions is thereby increased.

However, the low Ontario multiplier for general personal income tax changes would indicate that, from the standpoint of stimulating aggregate demand within the province, such general tax increases are likely to be less effective than more selective measures, such as sales tax changes focussed on Ontario products, or timely expenditure changes. With a separate personal income tax, of course, it would also be possible to introduce selective income tax measures designed to strengthen demand effects within the province and to reduce leakages to imports and to other provinces.

A SEPARATE PERSONAL INCOME TAX AND STABILIZATION POLICY

The Province of Ontario already has at hand, and has used, a large number of fiscal instruments to pursue stabilization objectives. Expenditure programs have been altered for stabilization purposes, a variety of temporary sales tax changes have been introduced, and the corporate income tax structure has been altered. Recently, the province also increased its personal income tax rate for the first time. In the past, it also followed the lead of the federal government when the so-called temporary federal tax reduction was introduced.

While the existing array of instruments is doubtlessly adequate for the purpose of stimulating or reducing aggregate real demand in the prov-

5 'Inside lag' refers to delays that result because of the time that elapses between steps in the decision making-approval-implementation process.

ince, there are a number of problems with the existing joint PIT system.

First, it is difficult if not impossible to treat corporate and unincorporated enterprises neutrally. As a result, provincial tax initiatives designed to stimulate business investment are applicable only to the corporate sector. Two examples are provided in the recent provincial budget:

a. The province has refused to follow the federal lead in limiting first year capital cost allowance deductions. However, without a separate PIT this can only be applicable at the corporate level. Unincorporated enterprises and individuals with property income therefore cannot avail themselves of this benefit.

b. To provide some relief from the current recession, a two-year tax holiday was declared for small incorporated enterprises. This amounts to an effective tax reduction of 10 percentage points for those enterprises. A similar tax reduction for unincorporated enterprises is of course not feasible under the existing joint PIT system.

With either a separate PIT or a more flexible joint system, this type of non-neutral treatment of corporate and unincorporated enterprises could be avoided.

Second, the existing joint PIT system makes it difficult to change the general tax level without altering the degree of progression of provincial income taxes. With provincial taxes calculated as a percentage of federal tax, an increase in the provincial tax rate automatically increases progressivity, and a decrease automatically reduces it. This is not as important an issue as the issue of neutrality discussed above, because the use of tax credits and surtaxes permits some additional flexibility (and examples of both now exist in several provinces). However, the problem could be eliminated entirely under either a separate PIT or a joint federal-Ontario PIT with a separate provincial tax rate schedule.

Third, the existing joint system forces the province automatically to adopt federal tax measures that may be undesirable from the standpoint of the province. For example, as a leading producer of capital equipment, Ontario may favour an investment stimulus over government spending as a means of combating recession. If the federal government adopts the opposite policy, as has occurred over the past year, the federal PIT measures that adversely affect investment automatically apply to the provincial

component of the joint PIT, thereby reinforcing the very effects of federal measures that are undesirable from the province's standpoint. A separate PIT would eliminate this problem, and a more flexible joint system could lessen it.

Fourth, the existing joint federal-provincial PIT complicates the introduction of certain provincial fiscal changes designed to affect aggregate supply. For example, investment tax credits could be established for corporate but not unincorporated enterprises, and measures to increase personal savings, such as indexing of RRSP limits or establishing shareholder investment plans, cannot be introduced by the province acting alone. A separate PIT would obviously provide complete flexibility to use provincial taxes for such purposes; a more flexible joint PIT could alleviate many of the difficulties.

LIMITATIONS ON POLICY DESIGN FLEXIBILITY UNDER THE EXISTING JOINT PIT SYSTEM

As noted in the Introduction, stabilization objectives include full employment, price stability, and adequate economic growth. Many fiscal instruments may lead to improvements with respect to one of these objectives, but at the cost of worsened performance with respect to another. For example, an increase in government spending will tend to increase output and reduce employment in the short run, but at the cost of increased price inflation over the longer term (the modern version of the Phillips curve trade-off).

The trade-off dilemma posed by the use of policy instruments that affect aggregate demand alone has led policy makers to respond with considerable interest to proponents of so-called supply-side measures. If policies shift aggregate supply as well as aggregate demand, it should be possible to improve real output without increasing the rate of inflation in the long run.

It is analytically useful to separate supply-side effects into one-shot measures, which have a once-and-for-all effect on the aggregate price-output relationship, and measures designed to provide a more sustained increase in aggregate supply. Both types of measures may be useful in the design of policies to improve performance with respect to output, employment, and prices.

Two examples will illustrate these two types of supply-side measures.

A permanent reduction in retail sales taxes is an example of a policy with a one-shot supply-side effect. Since these taxes are a component of unit cost, their reduction has a negative cost-push effect on the price level (analogous to the effects of a once-and-for-all reduction in oil prices). These reductions would at the same time stimulate aggregate demand, so that output would increase and demand pressures on prices would also increase. The net effect of the sales tax reduction on the price level depends on such factors as the level of capacity utilization and unemployment at the time of the tax cut, and the length of time that elapses following the tax cut. Under most circumstances, the initial impact of a sales tax cut is to reduce the price level, but as time passes the reduction is attenuated and is eventually reversed by the demand effects (assuming no change in other policies). Typically, econometric model simulations would indicate that for a considerable period of time following a sales tax cut the price level would remain lower than it otherwise would have been. If the sales tax cut is accompanied by other policies designed to neutralize its aggregate demand effects (such as an increase in personal income taxes or a reduction in government expenditures), a permanent reduction in the price level can be achieved. Indeed, under certain circumstances, with appropriate companion monetary and fiscal policies, a permanent reduction in the rate of inflation can be achieved with little or no cost in terms of forgone output and employment.

The changes in the corporate and personal income tax structures designed to increase investment are an example of a set of measures with more lasting supply-side effects. Increased capital formation increases the growth of potential output or aggregate supply. Although the effects on the growth of potential output are typically modest, they also typically persist for a long period of time. Improvements in labour productivity growth that accompany the increase in capital formation help to mitigate the wage-price spiral, permitting some expansion of realized output and employment without additional inflationary pressures.

Ontario's ability to adopt appropriate supply-oriented policies without adverse effects on other objectives is somewhat limited under the existing integrated joint PIT system for some stablization strategies. For example, sales tax reductions coupled with income tax increases with approximately the same incidence across income groups could contribute to reduced inflation in the short term, with little or no effect on vertical equity. Because a provincial income tax increase falls most heavily on middle- and

upper-income groups, whereas a sales tax reduction is of a higher relative benefit to lower-income groups, the appropriate response is an increase in the Ontario PIT rate coupled with an increase in refundable Ontario PIT sales tax credits. No modification in the existing system is required. However, this does not permit the 'fine tuning' that could readily be accomplished with a separate provincial rate schedule.

In a counter-example, Ontario's leverage to stimulate investment is limited under the current system. Stimulative measures can be introduced at the corporate level, but their impact cannot be reinforced by appropriate personal income tax changes. Moreover, too great a discrepancy in tax rates applicable to corporate source income and to individual income derived from unincorporated business could have adverse effects on sectors such as agriculture and rental housing.

It is clear that increased flexibility in policy design would permit some improvement in the effectiveness of provincial fiscal policies in dealing with multiple objectives of stabilization policy. How important this improvement is cannot be readily determined, because it depends on both the state of the national and provincial economies, and the impact of federal actions on the Ontario economy. For example, if there were little problem of conflict between the objectives, and if the performance of the Ontario economy closely paralleled that of the rest of the country, there would be little advantage to increased flexibility of policies at the provincial level, provided that federal policies were appropriate. In this situation, the piggy-backing of Ontario tax changes on federal tax changes could well be sufficient for stabilization purposes.

An opposite example would be a situation in which the Ontario economy's growth prospects were much weaker than the rest of Canada's, with investment strong in the West and/or East and weak in Ontario. Under these circumstances, a regionally neutral fiscal policy might not be optimal. If political concerns or constitutional constraints limit the adoption of regional discriminatory federal policies, a flexible Ontario fiscal policy would permit the province to provide appropriate stimulus to capital investment (assuming that the growth objective is of principle concern to Ontario policymakers).

Viewed solely from the standpoint of stabilization policy, the principal cost of a separate personal income tax for Ontario would be through a reduction in the effectiveness of federal stabilization policy. The next section addresses this issue.

EFFECTS OF A SEPARATE PIT ON FEDERAL FISCAL POLICIES

The existence of separate PITs in major provinces would have no effect on some federal fiscal instruments, but it would reduce the leverage of others. Assuming no provincial response to a federal initiative, the existence of separate provincial PITs would have no effect on the following instruments:

1. federal expenditure programs,
2. federal transfers to individuals,
3. federal sales and excise taxes,
4. federal corporate income taxes, and
5. federal surtaxes and credits under the federal PIT.

Separate provincial PITs would reduce the leverage of any federal tax change that affected 'basic federal tax', such as changes in deductions, definition of income, index capping, averaging, and dividend integration.

One could argue that the existing joint PIT system may bias the federal government's choice towards instruments that apply leverage at the provincial level. In a recession, for example, a levered tax cut achieves the same real effect with two-thirds of the impact on the federal deficit of an unlevered tax cut. In combating inflation, the political costs of increasing taxes may be shared with provincial governments through levered tax increases. However, one could also argue the converse of the last point. Given the political visibility of the federal deficit, and the lack of visibility of provincial income taxes to many taxpayers under the existing joint PIT system, an unlevered tax increase might be favoured because of its larger impact on the federal deficit. Whatever way the bias runs will depend on the federal cabinet's appraisal of public concern about the federal deficit on the one hand and about the level of taxes on the other.

It can be argued that the leverage issue is far better removed completely, which either a separate provincial PIT or a more flexible joint PIT system would accomplish. Alternatively, there could be an understanding that the federal government should not introduce structural changes that affect 'basic federal tax' without full consultation with the provinces. Federal income tax credits and surtaxes provide a great deal of flexibility for the federal government to implement stabilization policies without affecting basic federal tax. Such an agreement would preclude the federal

government from tinkering with such features of the tax system as indexing, the capital cost allowance system, and averaging, without provincial consultation (and ideally without full public consultation).

POSSIBLE PERVERSE FISCAL BEHAVIOUR AND A SEPARATE PIT

Would a separate PIT increase the probability of perverse fiscal behaviour by the province? First, we note that there is little evidence of perverse fiscal behaviour by either the provincial-municipal sector as a whole, or by Ontario in particular. Indeed, the fact that Ontario has initiated discretionary contracyclical actions is strong prima facie evidence against the perversity hypothesis. The behaviour of the major provinces or of the provincial sector as a whole in Canada does not appear to be cyclically perverse.

The perversity hypothesis is most appropriate for a federation composed of very small units with inadequate federal stabilization programs. In such a situation, the need of the small units to maintain their creditworthiness through conventional budget-balancing behaviour is the principle cause for concern about perverse discretionary policies. The subsidiary government units, not having direct access to the central bank, may raise tax rates or cut expenditures when recession lowers revenues. The collective result is a perverse tightening of fiscal policies, thereby worsening the recession.

In Canada, the dominance of large provinces within the provincial sector (Ontario and Quebec alone account for 62 per cent of gross domestic product, Alberta and B.C. for an additional 24 per cent) and the existence of federal equalization and revenue guarantee schemes has undermined the sources of possible perverse fiscal behaviour. While the stabilization schemes could doubtlessly be improved[6], on balance the provinces have not behaved in a cyclically perverse manner.

The existence of a separate PIT would weaken the contracyclical contribution of provincial fiscal policy only if we may assume:

1. that the province would accept a revenue change initiated by federal changes under the existing joint PIT system, and

6 See Canada, Report of the Royal Commission on Taxation (Ottawa: Queen's Printer, 1966), Vol. II, 'The Use of the Tax System to Achieve Economic and Social Objectives'.

2. that the province would initiate no change under a separate PIT in response to a federal action with the same federal revenue impact.

From the standpoint of economic analysis alone, such a situation could not arise, unless the administrative costs of changing provincial tax rates and other features of the tax system were high relative to the perceived benefit of the contracyclical policy. However, the politics of fiscal policy could well permit such a situation to arise. For an anti-inflationary increase in provincial PIT revenues brought about by federal actions might be accepted, although this same increase in provincial revenues under a separate PIT might be rejected, because of the public's perception of who bears the responsibility for the policy. The treasurer of Ontario must defend his budget in the legislature. He is not similarly accountable for the automatic provincial tax changes triggered by certain federal initiatives under the joint system.

On the other hand, not all contracyclical initiatives are politically costly. With a separate PIT, the province could well adopt more extensive contracyclical policies. Certainly the increased flexibility under a separate PIT, by giving the province greater freedom to tailor tax actions to Ontario's circumstances, would argue for a more, not a less, effective contracyclical policy in the province, because adverse effects on other objectives might be better mitigated under the flexible PIT system.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. Stabilization policy is feasible for the Province of Ontario, with relevant Ontario expenditure multipliers about two-thirds of the national multipliers and Ontario personal income tax multipliers about 60 per cent of the corresponding national multipliers.

2. General income tax changes, such as changes in the basic rate of personal income tax, are dominated by expenditure changes in terms of their impact on aggregate provincial demand. More selective tax measures, such as sales tax changes focussed on Ontario products, would also likely dominate general personal income tax changes in this respect.

3. Adoption of a separate PIT would permit introduction of more selective income tax measures.

4. Adoption of a separate PIT would facilitate implementation of supply-oriented policies (or permit demand management to be conducted with more of an eye to supply-side consequences).

5. Adoption of a separate PIT would not seriously affect the federal government's stabilization powers. Only the leverage of federal tax measures that affect 'basic federal tax' under the existing system would be reduced. This reduction in leverage could be readily offset by appropriate changes in the federal tax rate schedule.

6. The principal risk in the adoption of a separate Ontario PIT is that the province would be tempted to use more selective tax measures designed to attract demand (and to attract capital) from other provinces. This could trigger retaliatory measures by other provinces or indeed by the federal government itself. In the context of stabilization policy, where timing and credibility are critically important, such intergovernmental jockeying could reduce the net effectiveness of the policies adopted by the various levels of government.[7]

7. The flexibility of the existing joint system would be increased if the following steps were taken:

   a. Provinces were permitted to opt for a separate provincial tax rate schedule. Under this option, provincial taxes would be calculated on net income, and the exemptions, rates, and brackets would be determined by the province.

   b. All regionally non-discriminatory personal income tax credits were permitted. For example, savings and investment credits that did not discriminate against assets in other provinces would be allowed.

   c. Tax credits or surcharges applicable by type of income (business income attributed to the province, property income, or employment income) were permitted. This would, for example, enable

7 A set of proposals that would potentially increase the provincial capacity to effectively carry out stabilization policies on a non-discriminatory basis is included in Appendix 7A.

tax reductions for certain classes of corporate business income to be paralleled for unincorporated business income.

d. Regionally non-discriminatory deductions from taxable income were similarly permitted. This would, for example, permit the province to allow individuals to deduct the additional half of the first year CCA from their business or property income.

8. If items (a) through (d) above were all implemented, each cooperating province would obtain most of the flexibility of a separate PIT. What it would not get is freedom to impose regionally discriminatory tax credits or deductions, or the ability to tax sources of income not included (or partially exempt) in the federal income tax base, and conversely.

The federal government would presumably want to ensure that any such credits were established on a regionally non-discriminatory basis. This would preclude Ontario from introducing tax credits designed to attract investment from other provinces to Ontario. It can be argued that regionally biased policies are not in the long-run interest of Ontario in any case. The welfare losses from a system of discriminatory tax incentives are non-trivial; the potential political fallout is serious, and Ontario with its central location has an interest in the maintenance of the Canadian common market in both products and factors of production with as little interference by provincial governments as possible.

Appendix 7A
Details of econometric model simulations

1. Four fiscal actions were modelled under two monetary-exchange rate regimes, making eight policy simulations in total. The various combinations are laid out in the table below.

	Fiscal Action			
Monetary policy rule & exchange rate system	Increase of $500 million 1971 dollars in federal spending on fixed capital	Equivalent[a] federal personal income tax reduction	Increase of $500 million 1971 dollars in Ontario spending on fixed capital	Equivalent[a] Ontario income tax reduction
Fixed exchange rate[b]; monetary policy geared to maintain exchange rate	S1M1A	S1M2A	S1M3A	S1M4A
Floating exchange rate; monetary policy geared to M1 targets[c]	S1M1B	S1M2B	S1M3B	S1M4B

a The tax reductions were designed to have the same impact effect on the relevant government deficit as the expenditure change: i.e., nominal tax changes deflated by the government spending deflator in S1M2A equal the real change in government spending in the S1M1A (before indirect effects).

b The exchange rate was fixed in the same pattern as in the control solution of the FOCUS model.

c M1, the narrowly defined money supply, was fixed in the same pattern as in the FOCUS control situation.

2. Each of these fiscal changes was incorporated into a five-year control

solution of the FOCUS/PRISM system. This control solution was developed in February 1982 for the Ontario Economic Council.[1]

Comparison of the simulation results with the control solution permits calculation of the multiplier effects of fiscal actions within the time frame of these simulations.

3. In each simulation, the first step was the solution of the FOCUS national model incorporating the proposed fiscal changes. Since no provincial detail is provided in FOCUS, each provincial fiscal policy simulation is equivalent to a corresponding fiscal policy simulation for most variables, as follows.

Federal Policy Simulation	Equivalent Ontario Policy Simulation
1A	3A
1B	3B
2A	4A
2B	4B

In the FOCUS model results, the only difference between each provincial simulation and its equivalent federal counterpart is the respective sizes of the federal and provincial sector government deficits.

4. The solution of the PRISM model to derive regional results in the case of the federal policy experiments is straightforward. Since federal government spending on capital formation is assumed to have no regional bias, and the federal tax cut is a general across-the-board personal income tax cut, the PRISM model was solved recursively to the FOCUS model, yielding the normal industrial and provincial impacts of the regionally neutral federal policies.

5. The solutions of the PRISM model to derive the provincial results in the case of the Ontario model involved a number of adjustments to the PRISM model to reflect the geographic focus of government or consumer spending respectively.

In the government expenditure simulations, it was assumed that all of the 'first round' increases in non-residential construction spending were directed to Ontario, and that related non-tradeable primary production (non-metallic mineral mining, etc.) was similarly directed to Ontario.

1 See P. Dungan, D. Crocker, and G. Garesché, The Ontario Economy 1982-1995, 1983.

PRISM was then solved to derive the combined (direct plus indirect) effects of the fiscal changes on each province.

In the provincial personal income tax simulations, first round increases in consumer spending on non-tradeable items (services and food and beverages) were directed to relevant Ontario industries. PRISM was then solved to derive the total effects of the tax changes.

8
Labour supply[1]

The incentives embodied in an economy's tax structure can have important implications for its long-term potential output. This chapter assesses those tax-induced changes in labour supply which may affect economic potential. One need not accept the proposition that labour is the source of all value to recognize the importance of labour as a major determinant of that potential. A more useful approach, which treats labour as one resource among many in the analysis of production, still attributes to labour a 65 per cent share in the aggregate production function for Canadian goods and services.[2] The relation between the supply of labour and economic growth and potential GNP was discussed in Chapter 6. The emphasis here is on identifying and evaluating the labour supply effects of alternative tax structure changes.

The first section of this chapter develops the concept of labour supply in relation to a tax system. The next section reviews what is now known about tax-induced labour migration. The following section assesses what is known regarding the tax-responsiveness of education and training decisions. This is followed by a consideration of the significance of tax rate structures for hours of work and labour force participation. The

1 Based on studies prepared by Samuel A. Rea, Jr. and Sandra L. Tychsen. The first three sections draw heavily on a study on labour supply written by Sandra Tychsen for this report, and most of what appears here was drafted by her. The fourth section is based on a study prepared for this report by Samuel Rea. Sandra Tychsen prepared additional material on participation and child care. John Ham contributed additional material for the fourth section and helpful comments on the chapter as a whole.

2 Peter Dungan, FOCUS: Quarterly Forecasting and Simulation Model of the Canadian Economy (Reference Manual), Institute for Policy Analysis, University of Toronto, January 1982, F5b. To obtain the standard 'Cobb-Douglas' weights (.65 capital, .35 labour) 'overhead' labour must be added to 'production' labour in FOCUS.

final section provides a summary and conclusions regarding the expected magnitude of tax-induced changes in labour supply.

LABOUR SUPPLY AND THE TAX SYSTEM

Historically, analyses of tax effects on labour supply have focussed on two specific dimensions of labour supply - the degree of labour force participation and the individual supply of annual hours of work, matters discussed in the fourth section below. This concentration on labour force participation and hours of work, although unquestionably important in terms of enhancing the theoretical and, especially, the empirical sophistication of labour economics research, is somewhat paradoxical in the case of tax analyses because other facets of labour supply may be equally important to an assessment of the magnitude of tax-induced labour responses. As this chapter will suggest, there is at least initial evidence that human capital effects, particularly migration effects, may be as significant in the long run as more traditional labour supply effects.

In the broadest sense, the labour supply to an economy encompasses all aspects of the quantity, quality, and allocation of labour inputs. For analytic convenience, the manifold aspects of labour supply can be categorized into stock and flow categories. The first classification, the stock of labour skills, is often termed the quantity and quality of human capital by economists. It describes labour supply in terms of the education, training, and location of workers. The flow dimensions of labour supply describe the utilization rate of a given stock of human capital. This utilization rate is determined by the labour force participation rate (the proportion of the working-age population which is either employed or seeking work) and by employed workers' decisions regarding the number of hours of work to supply to the labour market. Less frequently studied, but increasingly noted, aspects of labour utilization are those related to decisions regarding years of market work (retirement decisions) and intensity of work effort (motivation). Traditionally, these flow aspects are simply referenced as 'labour supply'. Since our purpose here is to consider both human capital and utilization aspects, 'utilization' is employed in lieu of the labour economists' preferred term.

Since human capital is determined by educational, training, and locational investments, tax effects on these decisions can have significant repercussions on its acquisition. The human capital decision-making pro-

cess has been intensively studied by labour economists, but the potential impact of taxes on human capital investment has only recently begun. Some of the issues raised in the third section below include deductibility of education investment expenditures, treatment of human capital 'depreciation', and the effects of taxes on the uncertainty of returns to human capital.

The situation regarding tax-induced migration is largely similar. There is an extensive empirical literature which analyses migration within the human capital framework; recently, some of these studies have treated the relationship between provincial and federal government policies and migration. Nevertheless, there are very few that incorporate an explicit tax variable(s).

In contrast to the dearth of studies on the human capital effects of taxes, there is an extensive and increasingly sophisticated literature on the impact of taxation on the utilization aspects - participation and hours of work. These studies contribute significantly to our understanding of tax effects on different labour force groups. In particular, they reveal that the supply of labour by females who are mature, secondary family unit workers does not exhibit the same tax-insensitivity as does the supply of labour by mature men who are primary family unit workers, and that tax treatment of the costs of working (such as child care) can have important effects on the female secondary worker labour supply. However, there is little empirical evidence on the specific effects of provincial tax changes on labour supply.

This chapter includes some of the less-studied aspects of labour supply, as well as the important aspects of utilization, because of their potentially critical tax-related effects on economic potential. As noted below, the generally tax-inelastic estimates of hours and participation may suggest that policy-makers have a reasonably free hand in designing tax rates for labour inputs. But if other dimensions of labour supply are more tax-sensitive, those concerned with the long-run economic effects of taxation should be so warned, even in the absence of a fully developed empirical assessment. As Rosen has noted in regard to the preoccupation with tax effects on utilization, 'hours of work are just the tip of an iceberg that is potentially very deep'.[3]

3 Harvey S. Rosen, 'What is Labor Supply and Do Taxes Affect It?', American Economic Review, Papers and Proceedings, May 1980, 175.

MIGRATION

Migration decision model

To understand how tax changes may affect migration, it is important to consider the general nature of location decision-making. In economists' terms, it is important to specify correctly the alternatives available to individuals in order to understand and interpret their labour supply behaviour.

The process of migration decision-making has been studied in a voluminous literature. Although there are recent important refinements, the basic thrust is still best described by an early statement by Hicks, who claimed that 'differences in net economic advantages, chiefly differences in wages, are the main cause of migration.' Thirty years later, Sjaastad provided a microeconomic reinterpretation of migration as an investment in human capital.[4] This approach, the springboard for a steady supply of migration studies based in the human capital context, also provides the framework for current Canadian migration research.

The basic premise of the human capital model of migration decision-making is that an individual migrates in the expectation of being better off by doing so.[5] In other words, in this model, as in any economic model, people's choices (in this case the decision to migrate) depend on their assessment of the benefits versus the costs of a particular action. More simply, people are motivated to do what's best for themselves. Therefore, the essence of the model's power is its ability to classify and isolate the major categories and relationships of benefits and costs.

Before the model is examined in regard to personal income tax effects, one major alternative strand of migration research should be identified. Some recent migration questions have been raised, not in the standard human capital literature, but by public finance theorists. The seminal work was that of Tiebout, who hypothesized that people 'vote with

4 J.R. Hicks, The Theory of Wages (London: MacMillan, 1932), 76, and L. Sjaastad, 'The Costs and Returns of Human Migration', Journal of Political Economy, 5, October 1962, supplement.

5 This discussion of the human capital model relies heavily on the very readable exposition provided by Julie DaVanzo in 'Microeconomic Approaches to Studying Migration Decisions', in Migration Decision Making, Gordon F. DeJong and Robert W. Gardner, eds., (Toronto: Pergamon) 1981.

their feet' by moving to localities which best meet their preferences for publicly provided goods.[6] The so-called Tiebout hypothesis has been extended to include the effects of taxes. For example, Tullock states that the consumer (or voter) will choose a location by 'taking into account the private effects on him of the bundle of government services and taxes.'[7]

An obvious and important step for understanding the significance of tax effects on location would be to integrate the insights of the human capital and public finance models in the empirical study of how wages net of personal income taxes influence migration decision-making. To date, no published empirical study has attempted this assessment. Moreover, only a few studies incorporate taxes in any form in their analyses. Several such studies, two Canadian and a few American, are examined below; each of them tentatively suggests that tax levels affect migration. However, none of the analyses isolate personal income tax effects from other important migration variables, such as income and public service provision. To assess the importance of personal income tax changes on Ontario, evidence from additional sources is necessary. These sources are migration studies which provide information on how economic influences in general affect location decisions. The most important economic determinants, for our purposes, are income earning opportunities and provincial public policies. The basis for interpreting these determinants in terms of potential tax effects is provided by the basic microeconomic human capital approach to migration decision-making.

In the basic human capital model of migration, the potential migrant considers the expected advantages and disadvantages of moving to each potential destination and chooses to move if there is at least one location for which the expected benefits outweigh the costs of moving. Benefits are described by the economists' encompassing term 'utility', which includes all sources of well-being. Earning prospects are a major, if not the major, component of expected benefits (utility), but the term could also include climate, nearness to schools and relatives, and other amenities. Costs include not only transportation and moving expenses, but also less obvious factors such as loss of earnings while relocating, losses in location-specific assets such as clientele, owner-occupied residences, or

6 Charles M. Tiebout, 'A Pure Theory of Local Expenditures', Journal of Political Economy, 64, 1956, 416-24.

7 G. Tullock, 'Public Decisions as Public Goods', Journal of Political Economy, 79, 1971, 917.

nonvested pension rights, and the psychic costs of adjusting to new surroundings.

The individual's decision problem can be shown as a calculation which weights and adds up the benefits ('utility', in economists' terms) and costs of moving. Since the benefits (and perhaps some of the costs) of moving are realized over time, the potential migrant assesses the net benefit over his or her lifetime.

Comparing lifetime values involves discounting future benefits and costs, so that the present values associated with alternative locations can be compared. This calculation embodies the essence of the microeconomic approach to migration decision-making. Particular models emphasize specific components of utility and cost, or measure the components in different ways. Economists have been most concerned with determinants of expected future earnings, rather than personal factors, but the basic model does not restrict analysis to financial costs and benefits.

What can the human capital model say about tax effects? To see how taxes might affect migration decisions, the components of individual utility should be considered in more detail. Utility is a theoretical concept which summarizes individuals' preferences. To do so, it identifies and weights the factors which contribute to an individual's satisfaction. Utility, therefore, is a function of all of the objective and subjective variables which affect choice. Since it is impractical to list all of the determinants of utility, analyses usually identify separately only one or two variables most relevant to the problem at hand. For example, we might describe utility, U, as $U = U(y, G, X)$ where $y = (1-T)Y$ is after-tax (T) income, G indicates the level of government-provided services, and X collects the other variables which affect the migration decision. The utility function's basic use is to indicate what a person will choose, given free choice among sets of alternatives. Even the simple statement above helps to make explicit the choice problem facing a potential migrant.

The utility function above highlights the contributions of higher levels of disposable income (Y) and more public services (G), and, implicitly, the potential tradeoff between them at a given level of utility.[8] That is, if two areas differ only in that one has higher taxes (lower disposable income), an individual will prefer the lower cost alternative, but

8 It is conventional to distinguish positive from negative factors in the utility function by indicating for the benefits, $\partial U/\partial y > 0$ and $\partial U/\partial G > 0$; and for negative factors or costs, $\partial U/\partial T < 0$.

public service provision (G) could be augmented in the higher tax area to make the individual indifferent between the two locations. Also implicit in the utility statement is a presumption that individuals are indifferent between lower taxes and higher earnings. That is, there is no particular distaste or taste for taxes beyond their affect on income. The model implies that individuals are indifferent between situations A and B, which are identical except that A provides $10,000 in income and $2,000 in tax liability and B provides $20,000 in income and $12,000 in tax liability (so that y = Y-TY = $8,000 for both locations). If tax effects are perceived differently from income effects, the utility function should be reformulated as U = U(Y, T, G, X) where the tax variable (T) indicates specific tax effects on utility.

The utility-based human capital model emphasizes several aspects of the location decision. First, income differences are one of many factors affecting the relative desirability of alternative locations; the magnitude of the income variable, relative to other determinants of location, must be established by examining the evidence. This makes Hicks' assertion that wages are the main cause of migration a testable hypothesis. Next, if we assume that tax rates' effects operate primarily on the level of disposable income, tax effects can be observed by examining income effects. A final, important point is that individuals maximize utility, not just income, so tax-purchased services, or governmental expenditures, must also be taken into explicit account when analysing tax-induced migration.

Since the expected income variable is the central factor for assessing the existence and magnitude of tax-induced migration, the ways in which it affects the migration decision should be considered with care. The utility-maximization approach suggests that income may play parts beyond its direct role in the utility function.

The costs of migration may decline as current income and especially current wealth rises. For example, the costs of financing a move may be lower for those who can rely on their own sources of funds. In general, interest costs may decline with wealth. Therefore, it is important to distinguish income effects on the opportunity costs of moving (where lower origin income implies lower opportunity costs) from income-related effects on ability to afford transportation, forgone earnings, and other costs of moving.

Income may also affect location decision-making by allowing higher consumption of some noneconomic attributes of location. Climate, cultural

diversions, safety, and other locational amenities may all be 'purchased' with higher incomes.[9]

Migration studies have tended to rely on the simple theoretical outline just presented,[10] but the basic human capital model can be reformulated in a number of ways. First, if the family rather than the individual is the relevant decision-making unit, the model can be stated in terms of household utility. Second, the effects of uncertainty, including differences in riskiness of alternative locations, can be incorporated through the discount rate, as well as through 'expected' utility.[11]

The framework of the microeconomic model can also be used to analyse the effects of information problems on migration. A recent review by Goodman draws two major inferences from microeconomic models with information costs. First, migration is lower than it would be with perfect information. Second, moves are concentrated among people who move repeatedly, and are therefore locationally concentrated as well.[12]

This brief overview of the microeconomic migration model provides guidelines for assessing tax effects on the basis of the empirical literature on migration. Nonetheless, the model, like any useful abstraction, identifies only the major determinants and their relationships to migration

9 Consumption versus investment motives for migration are discussed in research by J.A. O'Neill, reported in Michael J. Greenwood, 'Research on Internal Migration in the United States: A Survey', Journal of Economic Literature, XIII, June 1975, 400. A recent examination by Graves emphasizes income differences among areas as compensating differentials for climate and other locational amenities. He argues that incomes adjust downward in less desirable locales, so that income differences among areas 'reflect compensation for climate differences, i.e., equilibrium consumption choices, and not real utility differences available for identical individuals'. Philip E. Graves, 'Migration and Climate', Journal of Regional Science, 20, May 1980, 229.

10 Theoretically refined analyses of tax effects on (international) migration are available from the literature on optimal taxation. The main insights of these analyses for tax-induced migration are set out in Bucovetsky's background study for this report.

11 A rigorous treatment of the role of uncertainty in migration is provided by recent studies which apply optimal-search theory to the migration decision. See, for example, Paul David, 'Fortune, Risk and the Microeconomics of Migration', in Nations and Households in Economic Growth, P.A. David and M.W. Reder, eds. (New York: Academic Press, 1974).

12 John L. Goodman, 'Information, Uncertainty, and the Microeconomic Model of Migration Decision Making', in DeJong and Gardner, op. cit. Goodman's nontechnical discussion of migration decision-making provides a good introduction to the theoretical optimal search approach to migration analysis.

decision-making. The model is appropriate for describing long-run regularities in average behaviour, and may provide little insight into whether a specific individual will relocate due to a tax schedule change. As the following section shows, the model provides a framework for empirical analysis of how the behaviour of groups of individuals may be affected. In particular, the model suggests that taxes will affect migration. Our interest is in the magnitude of the effect, so the model must be analysed using data. In economists' terms, we seek the tax-elasticity of migration. A particular question is whether tax-responsiveness is substantial enough to be 'elastic', i.e., whether it generates a percentage change in migration larger than the initial percentage change in taxes.

This question is empirically accessible. The decentralized Canadian tax system provides a substantial enough range in the data on tax levels (both rates and revenues) such that observable effects can be expected. Remarkably, however, the empirical Canadian migration research has not included analysis of either after-tax personal income or analysis of tax rates or levels as separate variables.[13] This neglect is in spite of the early example of Courchene. His pioneering work on Canadian migration derived hypotheses consistent with the human capital framework: migration was expected to be positively related to relative labour incomes and to unearned income. A component of his unearned income variable is location-oriented subsidies and transfers; when federally provided, subsidies benefit individuals by reducing their tax burdens. Courchene notes that 'a more complete analysis would, of course, include relative tax rates in the various provinces as a determinant of interprovincial migration.'[14]

A more complete analysis is still not available. The following subsections introduce the major empirical approaches to migration analysis and review the evidence they offer regarding potential tax-induced migration effects.

Empirical implementation of the model

To implement empirically the economic propositions about migration, researchers must translate the theoretical assertions of the model into

13 Exceptions are preliminary studies by Alex MacNevin and James Dean, whose results are discussed below in conjunction with a few U.S. migration studies with tax variables.

14 Thomas J. Courchene, 'Interprovincial Migration and Economic Adjustment', Canadian Journal of Economics, III, November 1970, 554.

straightforward hypotheses that can be confirmed or denied with observable data. This task requires analysts to locate factual counterparts for the theoretical variables, to choose a particular functional form to describe the relationship among the variables, and to decide which groups in the population to study.

As the diversity of approaches in the economic literature on migration will show, researchers have decided these issues in a variety of ways. The studies reviewed here generally employ different definitions of migration, include disparate sets of explanatory variables, and follow diverse econometric approaches. Even the appropriate sample definition is a matter of dispute.[15]

Not surprisingly, the estimates supplied from these varying specifications also differ. As Grant and Vanderkamp point out, 'the specification issue is important since the results vary a great deal, depending on the particular estimating equation chosen. Moreover, the interpretation of the results depends critically on the underlying theoretical specification.'[16] The diversity in the results, however, should not be overestimated.

Taken as a whole, the empirical migration literature provides a basis for some useful generalizations on the determinants of migration. The findings, overall, are in accord with the human capital model's predictions. As summarized by Robinson and Tomes, 'a higher average income or lower unemployment rate in the destination province increases in-migration while the same changes in the origin province reduce out-migration, other things equal.'[17] The literature also provides a consensus on the importance of distance and age as barriers to mobility. And, in general, the evidence substantiates the important influence of personal characteristics such as education, marital status, and language on migration decision-making.

But within these broad areas of agreement, important qualifications and differences emerge, and, for our purpose, these differences are more than academic. The literature provides conflicting results regarding the

15 These differences, for U.S. studies, are described in detail in recent surveys by Greenwood, 1975, and Richard J. Cebula, The Determinants of Human Migration (Lexington: D.C. Health, 1979).

16 E. Kenneth Grant and John Vankerkamp, The Economic Causes and Effects of Migration: Canada, 1965-71 (Ottawa: Economic Council of Canada, 1976).

17 Chris Robinson and Nigel Tomes, 'Self-selection and Interprovincial Migration in Canada', Canadian Journal of Economics, 3, 1982, 475.

statistical significance of tax and government expenditure variables; there is a wide range of income elasticities; there is apparent asymmetry in 'push' and 'pull' variable estimates; and there are anomalous province-specific results, particularly for Ontario. Each of these is crucial for gauging the potential impact of taxes on migration.

To assess critically the empirical estimates germane to taxation, we begin by presenting the empirical results of studies which explicitly include tax variables. The major findings regarding income and earnings variables are then set out. The final subsection provides an overall assessment of the significance of tax-induced migration for the Ontario PIT.

Summary of principal findings

Tax results

Preliminary direct empirical evidence on tax-induced migration for Canada indicates that taxes exert a statistically significant influence. James Dean has recently reported a study which suggests that tax factors importantly affect migration.[18] Dean estimates a simple model using aggregate annual provincial migration flows which incorporates two sets of personal income tax variables. The personal income tax rate in each province is expressed as a per cent of the basic federal tax for one variable. The other specification is direct taxes payable as a per cent of provincial personal income. The tax variables are generally significant, but are not generally as expected. For the destination province, both higher tax rates and levels have the hypothesized negative effect and are significant. However, higher taxes in the origin province also retard migration out of the province in the results Dean presents.

When the estimations are disaggregated, the tax variables reverse to the correct sign on origin migration for all provinces except Ontario and Quebec. Dean cautions that the results as a whole represent initial work and should be interpreted cautiously.

In another preliminary study using Canadian data, MacNevin presents initial results of migration estimations which include alternative specifi-

18 James A. Dean, 'Tax-Induced Migration in Canada 1972-1979', Western Economic Review, 1, 1982, 17-31.

cations of personal tax variables. The most useful specification for the purpose of isolating income tax effects is one in which personal taxes are deducted from income. MacNevin uses aggregate provincial data, so provincial-local personal taxes are subtracted from personal provincial income and expressed in per capita terms, corrected for interprovincial cost of living differences. He also experiments with a variable which combines provincial personal and commodity taxes.

For each specification, the tax variables carry the hypothesized signs and are significant. MacNevin interprets his income coefficients as evidence of 'the appropriateness of treating provincial-local taxes consistently.' MacNevin concludes that specifying income net of taxes is slightly preferable on both empirical and conceptual bases. His major finding is that his 'estimation results provide compelling evidence that taxes have a direct impact on migration flows.'[19]

These results are derived from an estimation scheme which has several appealing features. They are nonetheless preliminary. A cautious note is provided by Foot and Milne, who suggest that their attempts to incorporate different provincial tax structures in their modified gravity model estimations were unsuccessful. Moreover, they report that a measure of government expenditures net of taxes was clearly inferior to a variable which simply summed federal and provincial expenditures.[20]

Turning to U.S. studies, there are conflicting results from the isolated studies which incorporate tax effects.

Liu's study examines the interrelationships among migration, tax rates, employment growth, and public expenditures. His tax variable is defined by total state tax revenue (including property tax revenue) as a per cent of total personal income.[21] Rates of total net migration (between 1960 and 1967 for 75 U.S. metropolitan areas) are analysed, taking into account the other variables above as well as income growth rates, unemployment rates, wage levels, and other economic characteristics. The

19 Alex MacNevin, 'Fiscal Imbalance and Subcentral Public Sector Influences on Interprovincial Migration in Canada', paper presented at the 1981 CEA meetings, 37.

20 David K. Foot and William J. Milne, 'Public Policies and Interprovincial Migration in Canada: An Econometric Analysis', Working Paper No. 8126 (Toronto: Institute for Policy Analysis, 1981).

21 B.C. Liu, 'Local Government Finance and Metropolitan Employment Growth: A Simultaneous Equation Model', Southern Economic Journal, 43, 1977 1379-85.

results confirm the hypothesized interdependencies among migration, taxes, public expenditures, and employment. The estimated effects of both initial tax rates and growth of tax rates on in-migration are statistically insignificant.

A more recent study reports significant tax effects on migration. Schlottman and Herzog include a measure of 'fiscal pressure', defined as the ratio of state and local taxes (including income, property, and sales taxes) to personal income in their migration estimates based on 1970 U.S. Census data. The tax variable exerts a statistically significant positive effect on an individual's probability of both primary and repeat migration. Out-migration increases by roughly 1.5 per cent for every 1 per cent increase in the tax-income ratio.[22] Government expenditures do not enter the estimations, although the authors do include a variable for welfare expenditures. A variable measuring nonsite income (investment and federal social security) was significantly related to migration probability for primary, but not repeat, migrants.

Barsby and Cox included a number of specific personal income tax variables in their study of U.S. elderly migration between 1950 and 1960.[23] The tax measures include separate variables for special state old-age exemptions, credits, and average income tax receipts, as well as property tax, old-age assistance, and various government expenditure items. Most of the tax variables were insignificant, and the authors conclude that elderly migrants are essentially insensitive to special tax treatment. However, the authors caution that the tax credits are probably too small to influence locational choice and that the income tax exemption, although large relative to income levels of older persons, generates little in the way of tax savings, given the generally low state income tax rates.

In interpreting tax results, it is important to keep in mind their relationship to government expenditures. The migration decision model discussed above emphasized that the effects of tax level variations must be interpreted in relation to the public services financed through those taxes. As Dean explains, 'for tax-induced migration to occur, it is necessary that people prefer jurisdictions where on balance, considering the benefits of

22 Alan M. Schlottmann and Henry W. Herzog, 'Home Economic Conditions and the Decision to Migrate: New Evidence for the U.S. Labor Force', Southern Economic Journal, 84, April 1982, 950-61.

23 Steve L. Barsby and Dennis R. Cox, Interstate Migration of the Elderly (Lexington: D.C. Heath, 1975).

government services and the burdens of taxation, they are better off.'[24] In other words, in a Tiebout-type equilibrium, provinces would provide different combinations of public services and taxes according to the preferences of their citizens. No migration would be observed in response to varying tax levels since each tax rate is the price of the preferred bundle of public goods and services.

Canadian federal-provincial fiscal arrangements complicate this picture. Disparities in fiscal capacity and federal attempts at 'equalization' sever the tie between tax burdens and public expenditures. As Courchene pointed out in his seminal migration study, federal transfers to the provinces 'represent benefits to residents in the sense that their tax burdens are reduced accordingly.'[25]

Both the important relation between tax levels and expenditures, and the degree to which this relation is attenuated by federal transfers, have implications for interpreting empirical migration estimates. For example, the anomalous results for Ontario in some recent studies may indicate that the tax variable signals higher service levels rather than higher costs. Several recent migration studies have included public expenditure variables; they report greatly varying government expenditure effects on migration. Migration response to fiscal structure varies by province and income class, and differentially impacts outward rather than inward mobility.[26] It is nevertheless likely that tax variable results from studies without careful control for government expenditures will be biased.

The studies which incorporate specific tax variables generally suggest that taxes affect migration decisions. However, the dearth of studies and the preliminary nature of the estimations preclude dependable assessments of the magnitude of the migration response. The clearest conclusion to be drawn is that careful research on tax-induced migration is warranted and overdue.

24 Dean (1982), 17.

25 Courchene, 1970, 554. Courchene provides a more recent discussion of the relationship between the transfer system and economic adjustment in 'Avenues of Regional Adjustment: the Transfer System and Regional Disparities', in M. Walker, ed., Canadian Confederation at the Crossroads (Vancouver: the Fraser Institute), 143-86.

26 See MacNevin, 1981, 37-39; Foot and Milne, 1981, 26-27; Stanley L. Winer and Denis Gauthier, Internal Migration and Fiscal Structure: An Econometric Study of the Determinants of Interprovincial Migration in Canada, (Ottawa: Economic Council of Canada, 1982).

Income results

The wealth of evidence on the income responsiveness of migration can be useful in assessing the potential tax effects of migration. However, the relationship and distinction between income and tax effects should be kept in mind. If individuals regard a change in their real income identically whether it is caused by a different tax rate, a change in their earnings rate, or a change in some other income source, empirical estimates of the income-elasticity of migration can provide a good estimate of the tax-elasticity of migration. Income results, nevertheless, are not perfect substitutes for the results from more complete analyses, which would include estimates of separate tax variables and gross- and net-income variables. Individuals may indeed react differently to income changes from different causes, due to differences in information, perceived permanence, and a number of other factors. In the absence of these more complete analyses, we turn to the currently available income results from recent migration studies.

A general summary of the findings of both Canadian and U.S. migration studies is that income level differences motivate migration. Studies which use data aggregated by region, as well as those using individual observations, generally confirm that relative earnings opportunities are important determinants of migration. The magnitude of the income effect varies widely, as one would expect, given the different purposes, data, and methods of the studies. But a representative figure for the income effect can be provided. The migration elasticity of income suggested by current studies is about -1.0 per cent. That is, a 1 per cent decrease in expected income in a province would increase the probability of migration from that province by 1 per cent. The probability of migration from Ontario, defined simply as the number of outmigrants divided by the population of Ontario, has averaged about .012 in recent years. A 1 per cent increase in this probability would add about 900 additional migrants to the annual outflow from Ontario.

TAX EFFECTS ON EDUCATIONAL AND TRAINING INVESTMENTS

Skill accumulation from investing in education and training (human capital acquisition, in economists' terms), determines the effective size of the labour force. The educational level of the labour force, as a key deter-

minant of individual productivity and wealth, has been intensively analysed. The analyses systematically identify future earnings and earnings growth rates as key determinants of the quantity of educational investment. Clearly, tax structures have important effects on the return to educational investments and may also importantly affect another key determinant, the costs of investing in education. Nonetheless, only very recently have investigations begun of the potential effects of taxes on human capital investments.

At this time, theoretical analyses have constructed an initial conceptual framework for the problem. But important indeterminancies remain, and these can be addressed only through empirical investigation. Empirical analysis in this area is still nascent, especially for Canada. In general, careful work on the first step, estimates of the rate of return to education in Canada, is still being developed.

In this section, the conceptual framework is set out and major potential tax effects on investment decision-making are identified. The three critical areas of tax effects in relation to human capital investment are on differential rates of return between educational or skill groups, on tax system policies regarding educational financing, and on tax structure effects on the individual's allocations between human and financial (physical) capital investment.

Tax effects on return to educational investments

The returns to education, which in the broadest sense could encompass changes in all facets of an individual's life, can be roughly grouped into income-related (pecuniary) and consumption (non-pecuniary) benefits. The first and most obvious effect is that education affects work productivity and thus earnings. This effect comes both from educational delimitation of occupation and from education or training-related differences in productivity within an occupation.

Human capital investment also affects earnings in less obvious ways. It is the after-tax wage rate which determines hours of work and labour force participation. Put in economists' terms, the utilization rate of human capital is endogenous.[27] That means that taxes can affect educational decision-making indirectly through altering the desired choices of labour market status and amount of market work.

27 Rosen, 1980, 6.

An additional important dimension of educational effects on human capital utilization is a result of the differential unemployment experience by educational groups. For Ontario, 1982 unemployment rates drop smoothly from over 10 per cent for those with only primary education to under 4 per cent for those with post-secondary degrees.[28] Expected earnings, that is, earnings adjusted for the probability of employment, reflect an additional education-related factor.[29]

Human capital investments, like other investments, provide uncertain returns. This probabilistic element in the return to education may be large for specific occupational training in a dynamic economy: changes in both demand and supply critically affect future earnings, but are faultily forecast. This uncertainty in the rewards to educational or training investments is an important dimension of the education-earnings relationship, and thus is relevant for analysis of potential tax-responsiveness.

The earnings effects of education may not be the most important component of returns to education. The non-pecuniary benefits of education, although intangible and thus resistant to categorization, are assertedly extensive. These benefits are covered by the term 'consumption benefits'. An important component of these benefits may be occupational amenities. Included here are such critical job factors as power and status, health and safety, and all the various elements of working conditions and relationships that make up what Adam Smith termed 'the agreeableness or disagreeableness of employments.'[30] Until recently, these have been neglected by economists, but they constitute an unquestionably large component of the returns to human capital investment.

The tax structure potentially affects each of the component parts of the returns to human capital investment. Most obviously, the progressive rate structure of the federal-provincial PIT reduces earnings levels and differentials. The utility-weight of earnings level and growth (as well as that of income relative to other factors) will determine the extent to which progressive taxes deter educational investment. Some rough evidence of

28 Statistics Canada, Catalogue 71-001, Table 10.

29 A thorough discussion of the unemployment-education relationship as well as estimates of British rates of return to education, adjusted for the effects of unemployment on education, can be found in Orley Ashenfelter and John Ham, 'Unemployment and Earnings', Journal of Political Economy, 87, II, October 1979, S99-S116.

30 Non-pecuniary aspects of jobs are discussed in more detail in Morley Gunderson, Labour Market Economics (Toronto: McGraw-Hill, 1980), 210-11.

the magnitude of the adverse effect can be calculated by using elasticities of the probability of college attendance with respect to earnings variables. On the basis of U.S. data, tax effects on differential growth rates and levels of earnings by educational status yield a decrease of 3.5 per cent in the probability of enrolling in college.[31]

Occupations provide remuneration in different forms, and these different forms are sometimes taxed quite differently. The part of the pay package received in the form of non-wage benefits, such as health or other insurance coverage and housing or transportation subsidies, has historically received favourable tax treatment. The furor over the November 1981 changes in the tax rules, which eliminated many tax exemptions for fringe benefits, suggests that the tax advantages were substantial. Moreover, there is evidence that these tax advantages played a significant part in the remarkable growth in non-wage benefits, which are now too extensive to be called 'fringe'.[32] Among the provinces, Ontario has the highest proportion of fringe benefits to wages (over 30 per cent of total compensation).[33] Executive compensation received in the form of deferred earnings or stock options represents an additional source of differential tax treatment and, despite the recommendations of the Carter Commission, 'remuneration planning' of the salary-dividend mix can provide appreciable tax savings. Significant occupationally-defined tax savings also accrue from deductibility of expenses. Individuals in occupations which allow them to claim self-employed tax status can deduct office and other employment-related expenses, some of which may have significant consumption value. The 'general expense allowance', which permits deductions of 3 per cent of employment income to a maximum of $500 per year, was introduced in 1972. This allowance, in conjunction with the specific deductibles of travel costs, tools and supplies, and union dues, reduces the occupational bias in the tax-treatment of employment expenses. A clear tax advantage remains, nonetheless, for the self-employed. Within each income bracket,

31 Rosen, 1980. These results derive from an unusual sample and, in any case, may not be germane to Canadian experience. For further qualifications and analysis see Willis and Rosen, 1979.

32 The role that taxes play in the growth of fringe benefits is described in J. Pencavel, 'Alternative Methods of Remuneration', Research in Labour Economics, R. Ehrenberg, ed. (Greenwich, Conn.: JAI Press, 1977).

33 See S. Ostry and M. Zaida, Labour Economics in Canada, 3rd ed. (Toronto: Macmillan, 1979), 202-203, for evidence on the growth and composition of non-wage benefits.

the average claim under the general allowance is far less than that under the 'other employment expense' category, and the proportion of taxable income deducted is dramatically higher.[34]

The uncertainty of the return to human capital investment involves specific tax effects. As Rosen and Eaton explain, proportional wage taxes 'cut the riskiness of human capital because, in effect, the Treasury serves as the taxpayer's silent partner, sharing both gains and losses.'[35] If most people are assumed to be risk averse, this tax effect should promote investment in human capital. There is, however, the offsetting effect of taxes on individual wealth. If willingness to invest in risky assets decreases as wealth declines, taxes may reduce human capital investments. These theoretical effects operate in opposite directions, so the net effect of taxes must be determined empirically. Measurement problems impede progress in this area, but some preliminary evidence is offered, again by Rosen. His analysis examines tax effects on the decision to take on-the-job training (OJT). He finds, not too surprisingly given the uncertainty effects discussed above, that income taxes increase the probability that an individual undertakes OJT. Rosen suggests that taxes favour human over physical capital accumulation and that a decrease in the marginal tax rate of one-third would decrease the number of OJT participants (among white males) by about 2.4 per cent.[36]

Tax structures also favour 'consumption' benefits, such as occupational 'perks' or amenities, over pecuniary returns. Economists have shown that job amenities play an important part in total rewards of employment.[37] If the proportion of amenities to total pay varies nontrivially among occupations, significant tax effects on occupational returns exist.

Tax effects on the costs of human capital investments

Educational costs are more tangible than educational rewards, and the related tax effects are correspondingly straightforward. The major cost

34 Robin W. Boadway and Harry M. Kitchen, Canadian Tax Policy (Toronto: Canadian Tax Foundation, 1980).
35 J. Eaton and H.S. Rosen, 1981.
36 H.S. Rosen, 'Taxation and On-the-Job Training Decisions', NBER Working Paper No. 733, August 1981.
37 Recent Canadian results are reported by Pradeep Kumar and Mary Lou Coates in 'Occupational Earnings, Compensating Differentials, and Human Capital', Canadian Journal of Economics, XV, August 1982, 442-57.

components are forgone earnings and tuition costs. In addition, there may be financing costs and travel expenses. Lost earnings opportunities usually constitute the bulk of educational or training costs. These forgone earnings costs are reduced by income taxes just as realized earnings are. Under a proportional tax system, both costs and benefits are reduced proportionately, so that taxes do not have an impact on the investment decision.[38] A progressive system does affect the human capital investment equation by reducing returns relative to costs. This effect, however, is modified by special, if limited, tax treatment of educational expenses.

To begin, both tuition and moving costs are deductible by post-secondary students. In addition, there is currently a $50 per month education deduction for full-time students; dependents with zero taxable income may allow the supporting parent or spouse to claim the deduction. Income from scholarships, bursaries, and grants is eligible for special deductions and expense treatment. Interest income earned from savings plans to finance future educational costs (RESPs) is not taxed during the life of the plan. The student beneficiaries of RESP 'educational assistance payments' must treat the payments as taxable income, but the portion of income attributable to original deposits is tax free.

The cost reductions deriving from these separate tax provisions are obviously not universal in their incidence.[39] Furthermore, the tuition and education deductions are useless to students with no taxable income.[40] On the other hand, an important countervailing factor is the huge public subsidy to higher education and vocational training. For example, in Ontario, private tuition payments provide only 15 per cent of total university revenue.[41]

It should also be noted that the province currently funds several programs which ease educational financing and, to a lesser extent, reduce private educational costs. The Ontario Student Assistance Plan (OSAP) provides grants and government guaranteed loans to students who es-

38 M. Boskin, 'Notes on the Treatment of Human Capital', NBER, 1975.

39 However, data from Revenue Canada show that the size of the average claim for tuition fees varies little with income: it declines as income rises up to $15,000. Average claims are then fairly stable at around $200 between $10,000 and $25,000, and eventually rise only to $320.

40 One suggestion is to capitalize tuition fees for allowance in later years.

41 Ministry of Colleges and Universities, The Report of the Committee on the Future Role of Universities in Ontario, 1981, 24.

tablish need. The interest charges which accrue during the student's tenure are paid by OSAP, and are not repaid by the student. Provincial programs such as OSAP act to reduce educational costs and are thus relevant to any assessment of educational tax policy changes.

In conclusion, educational costs, which often consist primarily of forgone earnings, are not reduced proportionately to future earnings. This potential discrimination against investment in education is offset in part by specific educational tax provisions, but also by major public underwriting of tuition costs.

LABOUR UTILIZATION[42]

In the past two decades, labour economists have devoted significant resources to careful empirical analysis of the effects of changes in effective wage rates on the supply of labour (annual hours of work), as is shown by the length of the bibliography included in the study prepared for the Council on this topic.[43] In part, this research occurred in response to the perpetual public policy controversies that surround the question of wages and effort; but in part it can also be explained by the availability of more and better data and empirical methods.

The focus of the empirical work has been the estimation of effective wage 'elasticities' and their substitution and wealth components.[44] The technical term 'elasticity' means, in this instance, the ratio between the relative change (percentage change) in hours worked per annum and the relative (percentage) change in the effective (after-tax) wage rate. Thus, if a small percentage change in the effective wage is associated with a

42 This section is based on a Technical Paper prepared for this report by Samuel A. Rea, Jr. entitled 'The Impact of Taxes and Transfers on Labour Supply: A Review of the Evidence'.

43 See Rea, 41-45.

44 The 'substitution effect' may be defined as the effects on choices when relative prices differ given a constant income. The 'income effect' may be defined as the effects on choices when relative prices remain unchanged but incomes differ. In the case of labour supply, a wage increase raises the price of leisure (the income forgone by working one less hour), and the substitution effect alone will cause the consumption of leisure to decrease and labour supply to increase. On the other hand, a wage increase makes one wealthier, and thus the income effect induces increased consumption of leisure and decreased hours of work.

TABLE 8.1
Labour supply elasticities: per cent change in annual hours worked in response to a 10 per cent change in effective wage

	Men	Married women
Total	-1.0	+5.0
Comprised of:		
Substitution effect	+1.0	+7.5
Income effect[a]	-2.0	-2.5

a This is a simplification of Rea's terminology.
SOURCE: Rea, Table 3.

large percentage change in hours worked, one can say the wage elasticity is high, and conversely.

The supporting study by Rea provides a summary and appraisal of the estimation problems encountered by analysts. Some are conceptual, some are inherent in the available data, and some are related to the differences between the various econometric estimation techniques used by quantitative labour economists in recent years. Rea finds, disappointingly but not surprisingly, that, as with all crucial relationships in economics, 'the evidence on labour supply is far from conclusive'. He then goes on to say that the elasticity estimates for female secondary workers (for brevity hereinafter termed 'married women') are more uncertain than those for men.

The important caveats having been stated, Rea sets forth his 'best guesses' of the relevant elasticities. They reflect his assessment of the available results of the best analysts, using the best data and employing the best estimation methods. These are shown in Table 8.1.

These elasticities are not constants, but represent the responsiveness of the average person, working a representative number of hours at a representative wage rate, in the respective groups. The elasticities will change quantitatively as the number of hours worked and wage rate are changed, but should not change qualitatively. These results, assuming a no-tax and no-inflation world, are interpreted in terms of changes in the effective wage rate.

One way to change the effective wage is, of course, to raise or lower the applicable tax rate. In the table, the positive and negative signs show whether or not the change brings about a change in hours worked

that is in the same direction (a positive sign) or in the inverse direction (a negative sign).

For men: From the estimates it can be predicted that a 10 per cent increase in the effective wage rate from, say, $5.00 per hour to $5.50 would reduce the number of hours worked per year by one per cent. This is the net consequence of two offsetting effects:

- The resulting increase in income, in and of itself, will induce a 2 per cent reduction in work as more leisure is taken (a 'normal good').

- If the increase in income resulting from the higher (effective) wage rate were offset (compensated), and the substitution effect were thus isolated, hours worked would increase by 1 per cent because leisure had become relatively more costly.

For married women (secondary workers): the same percentage increase in the same wage rate will increase the number of hours worked by 5 per cent. This is also the net result of two offsetting effects:

- The increase in income, in and of itself, will induce a 2.5 per cent reduction in hours worked.

- If this income change were offset (compensated), giving the 'pure' substitution effect, there would be a 7.5 per cent increase in hours worked because leisure would be more costly as a consequence of the higher wage.

According to these estimates, higher effective wage rates, on balance, lead to a reduction of labour hours for men and an increase for married women who are secondary workers. This disparity is explained by the much greater substitution effect for women than for men.

The foregoing results are independent of any tax system. They can, however, be readily interpreted in tax change terms. If there were a proportionate income tax, the change in the tax rate would be analysed as a change in the effective wage rate, with the labour supply results consequent upon these elasticities. Suppose the before-tax wage were $6.25/hour and the proportionate tax rate 20 per cent. The effective wage

would therefore be $5.00. A reduction in the tax rate to 12 per cent (reduction of 40 per cent in the tax rate) would raise the effective wage rate by 10 per cent from $5.00 to $5.50, as before.[45] The 'best guess' elasticity estimates suggest that, in this instance, the 40 per cent reduction in the proportionate tax rate, resulting in a 10 per cent increase in the effective wage rate, would reduce labour hours by 1 per cent for men and raise labour hours for married women by 5 per cent.

Needless to say, the introduction of a progressive rate structure (with increasing marginal rates applicable to higher income brackets up to some limit) introduces complexities. These complexities and the accepted method of handling them are explained by Rea in his study. The results, using the 'best guess' wage elasticities set forth above, are given below. They use the 1981 federal and Ontario PIT rates, taking into account the basic exemption and the UIC, CPP, employment and standard deductions.

An important distinction is made between 'compensated' and 'uncompensated' predictions. The uncompensated effects of the PIT tax rate changes take into account both the income and the substitution effects to give a net per cent change in annual hours worked. The compensated effects are the substitution effects only, on the assumption that the income effect has been offset, perhaps through a change in government expenditures.

To illustrate the point, the labour supply effects of abolishing the PIT, as it applies to wage income, are considered in Table 8.2 for two single men with gross income from wages of $10,000 and $30,000, respectively. Neither has non-wage income.[46]

One is immediately struck by the remarkable insensitivity of the supply of labour hours by men to dramatic changes in the PIT tax rates. Based on the best guess estimates, and considering the uncompensated change, abolishing the PIT system as it applies to male workers would reduce the supply of hours for men earning $30,000 a year by nearly 2 per cent and, for men earning $10,000, increase the supply of labour by only one percentage point.

45 However, if the tax reduction were offset by a reduction in government expenditures that the worker valued as much as the tax induced increased income, only the substitution effect would be applicable.

46 Taking into account the progressive nature of the tax system, as well as considering different income levels, accounts for the minor changes in the elasticities from those in the first table.

TABLE 8.2
Predicted percentage changes in hours of labour supply resulting from removal of federal and Ontario PIT on labour income (1981 PIT system)

Gross income	$10,000		$30,000	
Average tax rate (%)	10		25	
Marginal tax rate (%)	28		38	
	Men	Married women	Men	Married women
Compensated change in hours (%) (i.e., substitution effect only)	+3.9	+29.2	+6.1	+45.8
Uncompensated change (%) (i.e., income plus substitution)	+1.1	+25.7	-1.9	+35.7

SOURCE: Calculations for $30,000 taken from Rea, and for $10,000 based on Rea.

Even if the income effect were fully offset, the substitution effects alone are hardly dramatic: increases of about 4 and 6 per cent respectively for the two income classes given in our example. This modest result from the abolition of the PIT for labour income!

The predicted effects on the supply of hours by married women are much greater because of the much greater substitution effect estimated for them relative to men, as stated above. Although these estimates are less reliable than the estimates for males, particularly at the higher gross income level, the difference is so large as to be unmistakable.

Using the same basic wage elasticities, Rea also calculated the predicted effects on labour hours of the reduction in the federal tax marginal rate from 57 to 50 per cent announced in the November 1981 federal budget. The income brackets are the same as those that applied in 1981. The results are these:

	Men	Married women
Compensated change in hours (%)	+1.6	+12.2
Uncompensated change (%)	+0.5	+10.8

Here, too, one is struck by how little the lowering of the marginal rate is predicted to affect the hours worked for males and how sub-

stantially it is predicted to affect those for women. At least in this instance all of the effects are positive.

The great sensitivity of the relative change in the number of hours worked by married women to the relative change in the effective wage (income being held constant one way or another) has some potentially important implications for tax policy. Because this group is so sensitive to tax changes, 'deadweight losses' are readily generated. A tax not only transfers income from citizens to the government, but it also distorts behaviour by changing labour supply from what it would have been in the absence of the tax. In turn, these distortions reduce the output of the economy, and these costs are termed deadweight losses. The deadweight losses are directly proportional to the substitution elasticity,[47] and while we would not expect them to be high for men, they may be quite substantial for married women.

Thus far in this review of the impact of PIT on labour supply, the question of labour force participation has been ignored: the analysis has proceeded as though the only tax-induced change in labour supply arose with respect to the hours worked by those with jobs. This is probably a reasonable approach for primary male workers in a fully employed economy. It is obviously less true for married women who are secondary workers.

Determinants of labour force participation by married women

The question of labour force participation deals with labour supply in a categorical sense. For married women, the issue is whether or not a woman will spend any time at all in market work or whether she will specialize completely in production in the home. By official definition, any individual who worked at least one hour or was unemployed (again, according to the official definition of unemployment) in the week in which Statistics Canada conducts the monthly Labour Force Survey is considered to participate in the labour force. The proportion of the population group 'married women' who participate in the labour force at any moment in time is the labour force participation rate for married women. This rate has increased dramatically over the past few decades, jumping from about 30 per cent in 1962 to over 40 per cent in 1972, and finally topping 50 per

47 See Rea, 10.

cent in the early 1980s. Moreover, the rate is projected to continue to climb to over 55 per cent by the mid-80s.

A prime determinant of labour force participation is the relationship between earning capacity (the market wage) and the value of time spent at home (the home wage or shadow wage). If the individual is to benefit by working, the shadow wage must be less than the market wage. The determinants of this comparison are relative productivity in the home and in the market, individual preferences, and non-labour income (which includes the earnings of other family members).

For any individual out of the market, some market wage opportunity can be imagined where the individual is indifferent between engaging in market work and staying out of the labour force. This hypothetical earnings rate is called the reservation wage, since it is the minimum market offer that will induce a person to become a labour force participant. Clearly, sufficiently large increases in market earnings (assuming non-labour earnings stay constant) will eventually cause the market wage to exceed the home or shadow wage. At this point, an individual who has been spending all of her time at home will enter the labour force. On the other hand, increases in non-labour income, for example husbands' income, are expected to decrease labour force participation. The economic growth of the 1950s and 1960s caused non-labour earnings to increase substantially for married women, as husbands' earnings rose.

Therefore, the growing labour force participation rates for married women that accompanied this rise in income levels appeared paradoxical. After much empirical investigation, labour economists discovered that women's large positive response to their own rising wage opportunities outweighed the negative effect of rising family income levels. The essential finding was that the net effect of rising wage rates and family income levels has been to increase the labour force participation rate of married women.

In recent years, the increase in women's labour force participation has undergone a fundamental change in the age patterns of participation. The long-established dip in the female participation rate during the childbearing years is eroding; indeed, the greatest increases in participation have occurred among women with children under six. Recent projections of labour force growth have emphasized that married women will constitute the major source of future labour force growth.[48]

48 'Married women, husband present' has conventionally been the term used

The importance of this labour force group for future growth in economic potential is only one reason for considering in more detail the effects of tax policies on the labour supply.[49] An additional reason is the particular sensitivity of this labour force group to alternative tax treatments. The major features of tax structure effects on women's labour force participation derive from three primary sources: tax treatment of the family, tax effects on hourly wage rates, and tax policy with respect to child care and other employment expenses.

Differences in the tax treatment of the family, on the basis of differences in marital status and family composition, cause the returns to participation to vary substantially among individuals. These family structure effects are considered in Chapter 15. Tax effects on hourly returns have been examined above. We turn now to the tax treatment of employment related expenses, particularly child care expenses.

There is general agreement that there are important costs associated with undertaking market work. Economists have long recognized and analysed costs of participation such as travel, clothing, and food. For married women, the largest component of costs of work is probably the purchase of substitutes for the work previously performed in the home, and the largest part of these service costs is typically child care. Only recently have attempts been made to incorporate this important feature of entry costs into studies of female labour supply. Although few estimates are available, some important insights into the main effects of entry costs and some initial empirical estimates of their relation to participation and hours of work are available from a set of labour supply studies by Cogan.[50]

Cogan makes two important points regarding costs of work. First, costs of work are large enough in relation to women's average earnings that labour force participation is significantly negatively affected by such

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to designate the major female demographic group in the analysis of labour supply. In recent years, single mothers have become an increasingly significant category of labour force participants. See In Short Supply (Ottawa: Economic Council of Canada, 1982), 24-32, for a discussion of labour supply by family type.

49 The appendix to Chapter 6 contains estimates of the effect on potential GNP of a 1 and 5 point increase in the labour force participation rate of women aged 25-54.

50 See John Cogan, 'Labor Supply with Costs of Labor Market Entry', Female Labour Supply: Theory and Estimation, James P. Smith, ed. (Princeton: Princeton University Press, 1980).

costs. One immediate effect is that participation at low numbers of hours is uneconomical. As Cogan points out, few women are observed at hours of work below a minimum of about 800 hours per year. The expected heavier burden of entry costs on women may be reflected in the fact that, among part-time workers in Ontario, women on average have more hours of work (15.0) than men (13.8), while among full-time workers men typically average more hours of work (42.9) than women (38.7).[51]

Cogan estimates the costs of work to be about 16 per cent of women's average earnings. The most important source of work costs are pre-school children. According to Cogan, an additional pre-school child increases annual costs of participation by over 5 per cent of average earnings. These costs reduce the probability of labour force participation. Direct estimates are not yet available regarding the magnitude of the response of labour force participation to variations in these costs, but some rough guesses can be provided based on indirect evidence. First, however, the nature of these costs must be examined further.

Costs of working

The costs associated with the decision to participate in the labour force are, in large part, fixed costs. That is, the major costs do not depend on the number of hours worked (after the first hour). Child care, transportation, and clothing are expenses which essentially represent a fixed penalty for working. Therefore, they reduce the probability that a married woman will work, especially at a part-time job.

These costs also affect the decision of how many hours of work to supply to the market. Hours of work may be either reduced or increased depending on the nature of the costs of labour market entry. Brief reflection will establish that the typical costs of working have both time costs and money costs. For example, the ratio of time costs to money costs of travel to work will decline as the household locates closer to the job of its members. Of course, some costs are unalterably time-intensive and others money-intensive. But in general, individuals can choose between time and money costs. An important determinant of whether individuals choose to incur these costs by spending money or by allocating

51 Statistics Canada, Labour Force Survey, March 1982. Hours of work are of course determined by a large number of factors. In particular, demand factors as well as labour supply factors determine usual hours.

their time is their earnings rate. As the earnings rate increases, money costs will tend to be substituted for time costs. As Cogan explains, 'An increase in a working woman's wage might, in the short run, not induce her to alter her child care arrangements, but over time one would expect her to substitute toward arrangements that are less intensive in her time'.[52]

The two different types of costs of working have different labour supply implications. It is true that increases in either type of cost will reduce labour force participation. But once the participation decision is made, increases in money costs will raise the number of hours worked while increases in time costs will reduce hours supplied to the market.

Using Cogan's estimates, the effects of entry costs on participation appear to be substantial. Using the results for pre-school children to approximate entry costs, an additional $220 per year in costs of work decreases the probability of participation by 5 percentage points.

Costs of working are currently recognized by the Income Tax Act. The general expenses allowance, noted earlier in this chapter, allows 3 per cent of employment expenses, up to a maximum of $500, to be deducted from taxable income. This deduction does not vary with actual costs incurred. Separate tax provisions exist for the major employment cost factor of child care expenses.

Current tax treatment of child care expenses

Since 1972, expenditures on child care have been partially deductible. The major limitation is the relatively low maximum deduction (roughly 25 per cent of average cost). Other limitations, on eligibility and allowable expenses, also apply. The main features of the current tax treatment of child care expenses, described below, directly affect entry costs, and thus the labour force participation and hours of work decisions, particularly for married women.

The Income Tax Act presently allows expenditures on child care to be deducted in calculating taxable income. The deduction is available only to working women and to fathers who are responsible for child care but who are without a wife. That is, the deduction is designed as compensation for the child care services of a wife. For example, it would be allowed to

52 Cogan, 329.

a family in which only the wife worked, but not to one in which the husband worked and the wife were looking for work.[53]

The current maximum per child has remained at $1,000 since 1976. As indicated above, this amount is far below the usual costs of day care for young children, which averaged close to $4,000 per year in 1981. Payments cannot be claimed for a deductible dependent or for another family member under 21 years of age. Other minor limitations require that total deductions equal less than two-thirds of the claimant's earned income, that no more than four children be claimed, and that only children under 14 are eligible.

According to data from Revenue Canada, the average child care claim increases with income but decreases as a percentage of average assessed income as income rises.[54] Large percentages of taxpayers at lower incomes (under $15,000) claim child care expenses. This reflects the fact that the deduction is essentially unavailable to men, while women have proportionally lower incomes.

Alternative tax policy on child care expenses

Some policy analysts argue that child care expenses should be fully deductible on optimal taxation principles.[55] Allowing full deduction of child care expenses is efficient in that it provides the correct incentives for both outlays on child care and for participation decisions. As Krashinsky explains, 'The most efficient way to provide a rational subsidy to day care would be to let the family make its market choice of child-care arrangements at full cost and then deduct the actual expenditure from income before calculating welfare or tax payments.'[56] As noted, the allowable deduction is now quite low relative to average child care costs.

53 Some job training schemes qualify a mother for the child care deduction, but most educational or job search activities do not.

54 Figures for family income or for only eligible returns are required, but are not available, for assessing the distribution of the benefit by income level.

55 See, for example, the analysis in Michael Krashinsky, Day Care and Public Policy in Ontario, Ontario Economic Council Research Study 11 (Toronto: University of Toronto Press, 1977).

56 Michael Krashinsky, User Charges in the Social Services (Toronto: University of Toronto Press, 1981), 81-82.

Tax treatment of secondary workers

Another barrier to the labour force participation of married women who are secondary workers is the higher marginal rates that apply to the first dollars of their taxable income. After she earns $490 (1981), the married exemption of the husband is reduced dollar for dollar by his wife's earnings until his married exemption of $2,780 (1981) is eliminated. In essence, from the point of view of the family, her taxable income between $490 and $2,780 is taxed at his marginal rate - a rate that is often appreciably higher than his wife's. Given that married women have high substitution elasticities (the compensated substitution elasticity is large), the present PIT system may raise a significant barrier to the labour force participation of women.

Negative income tax schemes

Social security and welfare schemes that relate the amount transferred to the individual's income from other sources can be generically termed 'negative income tax systems'. Obviously, some are more comprehensive than others. Usually these programs guarantee a certain sum per period for those without other income. This sum is 'taxed back' at a certain rate when there is income from other services. For example, if $5,000 is guaranteed and income from other sources (e.g., labour income) equals $1,000 and the 'tax back' rate is 60 per cent, the $5,000 would be reduced by 0.60 times $1,000 to give a net transfer of $5,400. In this example anyone earning more than $8,333, the 'break-even point', would receive no transfer.

An incentive problem arises for those whose employment incomes lie between zero and the break-even point ($8,333 in our example). Their incomes are raised by the transfer scheme. Leisure being a normal good, one would expect more leisure to be consumed. Moreover, because the effective wage rate is reduced by the tax back rate (the consumption of leisure is made relatively less costly than the consumption of goods), the substitution effect would also favour more leisure. Although the implications for labour supply seem clear enough, there is however, despite massive negative income tax experiments in the U.S. and Canada, considerable controversy surrounding this incentive question.[57]

57 See Rea, 31-33.

TABLE 8.3
Estimates of critical tax rates for different labour supply elasticities

Elasticity	Critical tax rate (%)
0	100
.1	91
.2	84
.3	77
.4	71
.5	67
1.0	50

The Laffer Curve

One of the cornerstones of 'Reaganomics' is the Laffer Curve. This curve simply states an obvious relationship. If tax rates are raised from zero, revenues will first rise because there will be a relatively small reduction in the taxed activity. On the other hand, if taxes are lowered from a 100 per cent tax rate, activity will increase and tax revenue with it. The crucial question for policy is: at what critical tax level do increasing tax rates actually decrease revenue? A sophisticated calculation of this sort has not been carried out for Canada, but careful estimates for the U.S. place the critical tax rate at slightly less than 80 per cent. Using an approximation of the methods used in the U.S. study, Table 8.3 presents rough estimates of the critical tax rate for different values of the overall labour supply elasticity (combining men and women) in the economy.

Given current elasticity estimates for Canada and the U.S., it is difficult to see the overall labour supply elasticity being greater than .2 or .3, or the critical tax level being much lower than 80 per cent.[58] Even considering the back-of-the-envelope nature of these calculations, it does not appear that the issues raised by the Laffer Curve warrant serious concern by policymakers.[59]

58 These estimates ignore labour demand effects, which would lower the critical tax rate. However, these are considered in the U.S. study, and, as noted above, the critical tax rate for the U.S. is calculated at 80 per cent.

59 It is worth noting that the calculations above do not consider the potential migration effects discussed earlier; in particular, they include only labour supply effects from hours and participation.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. There is some initial evidence that migration is responsive to taxes. But research on tax-induced migration is still in the initial stage. The scarcity of research and the preliminary nature of the existing evidence preclude firm conclusions on the expected magnitude of PIT changes on Ontario migration flows. However, rough calculations can be made if the more highly developed literature on income-motivated migration is also used. The best guess, using the estimates of the income-responsiveness of migration (and ignoring potential effects on in-migration to Ontario), is that a tax change producing, on average, a 1 per cent decrease in income earning opportunities in Ontario would increase the annual outflow from the province by fewer than 1,000 people. In 1981, this change would increase the net outflow of Ontario residents to other provinces from 21,000 to 22,000 thousand (in 1981, the inflow to Ontario from other provinces was about 69,000 and the outflow was about 90,000). Such migration would occur disproportionately in groups with higher mobility, such as younger, more highly educated workers. The effects of this potential migration on Ontario are unlikely to be substantial. That is, the size of the migration response, while not trivial, is small enough and uncertain enough that it should not be regarded as a major constraint for PIT policymakers.

2. Educational training decisions are affected by the tax treatment of the returns and costs of these activities. But for both types of 'investment in human capital', specific provincial tax effects are dominated by more general influences. In the case of educational decision-making, the uncertainty in the returns to education, the substantial intangible component to these returns, and the hodge-podge of tax policies for costs and returns, each produce different, and often conflicting, effects on the extent of investment undertaken. A change in the current system that would theoretically provide an unbiased investment choice for individuals would be to institute taxes on the present value of lifetime income, rather than on annual income. The recent changes in income-averaging provisions are a move away from this concept. Although an education credit would represent a deviation from the somewhat attenuated federal principle of tax-refund

based credits, such an extension of the provincial credit option may not be entirely unfeasible. In any case, similar encouragement to educational investment could doubtless be produced more directly via provincial support of educational and training institutions or existing scholarship and work-sharing programs.

In summary, taxes have identifiable, but inexact effects on the investment decision regarding education and training. The complexity of the tax effects partially precludes a clear determination of the extent and direction of these effects. Drawing on both the theoretical and the scanty empirical evidence, the conclusion is that the PIT system does not discriminate significantly against human capital investment.

3. The research on tax effects on labour supply provides several major findings. First, the male labour supply is generally quite unaffected by tax changes. Overall, the most likely effect of increasing taxes on the male labour supply is a small increase in hours of work. Second, a much larger tax-sensitivity is found for married women. For this labour force group, the supply of hours to the labour market would decrease by 5 per cent if taxes caused a 10 per cent decrease in income. In addition, it is clear that costs of entry into the labour market are a significant deterrent to labour force participation. Tax treatment of these costs, particularly child care expenses, can thus be used to affect labour force participation. Finally, the research on labour utilization suggests that substantial tax distortions may result from the tax-sensitivity of labour supply, quite apart from its other effects. Very preliminary calculations suggest that the 'Laffer Curve effect' does not represent a serious constraint for Ontario policy-makers.

4. The general conclusion of this chapter is that labour supply considerations are important. Nevertheless, the limited information available from the best current research suggests that the labour supply effects of likely PIT changes are uncertain and probably fairly small. The labour supply distortions of the current PIT do not provide a rationale for major PIT alterations, with the possible exception of changes in the treatment of child care expenses.

9
Savings and investment in a small, open economy

The crucial roles of labour supply and fixed capital formation in the determination of the growth of output and employment were explained in Chapter 6. Chapter 8 dealt with labour supply. This and the following two chapters consider personal saving and corporate fixed capital investment - the former being a component of total saving that is a necessary concomitant of capital formation. The purpose of this chapter is not to elaborate upon the details of a PIT system as it affects personal saving or investment, the subjects of the two chapters to follow; rather it seeks to emphasize the special characteristics of the Canadian and Ontario economies - their smallness and openness - that have vitally important implications for both.

If changes in the PIT system could be made that would stimulate saving and investment, and hence employment and growth, and the federal government were unwilling to make the requisite changes, Ontario might well be justified in adopting a separate system that embodied these features. (Assuming, of course, that the federal government or other provinces did not take retaliatory steps that offset or more than offset the Ontario changes and that the same result could not be achieved by other means that were less costly.) It is the argument of this chapter that because Canada has a small open economy (by international standards), and Ontario has an even smaller and more open economy than the nation, measures that might be effective in a large, closed economy, roughly approximated by the economy of the United States, would be ineffective for Canada or Ontario.

The argument is frequently made that the more generous treatment of investment income under the PIT would encourage more personal saving, thus lowering interest rates and thereby stimulating investment. Leaving aside the extremely dubious assumption that the level of personal saving is

sensitive to interest rate changes or changes in after-tax rates of return (a subject to be considered later), the validity of the argument hinges on the assumption that the economy in question is large and closed - an assumption that is invalid for Canada and in particular for a province, such as Ontario. Before seeking to outline the reasons for this conclusion, it is necessary to consider the fundamental savings and investment identity of the system of national accounts.

SOME FUNDAMENTAL CONSIDERATIONS REGARDING SAVING

The logic of national accounting dictates that, when properly measured, aggregate saving is necessarily identically equal to gross capital formation for the nation. To be specific:

business saving consisting of depreciation and retained earnings
plus personal saving
plus government saving ('surplus' on a national account basis)
plus foreign saving (current account deficit in balance of payments)

identically equals

gross fixed capital formation consisting of:
- residential construction
- non-residential construction
- machinery and equipment

Raising personal saving might not affect total saving because it might simply displace other kinds of saving. In particular, when the economy is operating at full potential, increased personal saving is likely to be matched by a reduction in our reliance on foreign saving and/or a reduction in government saving. In a small, open economy, putting aside short-term stabilization questions, more personal saving is more likely to alter <u>how</u> a given level of capital formation is financed than the level of investment; this is discussed in detail later.

Substituting more domestic saving for foreign saving could raise Canada's future standard of living, since we would not have to service foreign obligations to the same degree by supplying exports. This is probably not the benefit[1] that the supporters of a more generous treatment

1 The term 'benefit' is used loosely in this context. If the residents

of personal saving have in mind, however.

Because Canada-Ontario has a small, open economy, interest rates in Canada-Ontario vary directly with international interest rates.[2] The size of the gap between the domestic and foreign rates may narrow or widen for relatively short periods of time because of differences in monetary and other policies. But without foreign exchange controls, variations in the gap are relatively modest. Consequently, increases in domestic saving from whatever source cannot push interest rates appreciably below the international rate for long periods and thus stimulate domestic capital formation generally. Canadian investors, faced with a low return on funds at home, simply invest them abroad where the return is higher. By the same token, a decline in domestic saving relative to domestic demand temporarily raises domestic interest rates and induces an inflow of foreign funds searching for the higher return, thus 'capping' the domestic cost of capital.

The comparative constancy of the interest rate spread is shown in Figure 9.1. It shows the 90-day commercial paper rates in Canada and the U.S. plotted for the past few decades. (Recall that the analysis here is not concerned with short-run stabilization phenomena.)

It is not possible to say on the basis of the available evidence that increasing the after-tax rate of return on personal saving by means of a more favourable personal income tax treatment would likely be effective in increasing total saving. The measured interest elasticities of personal saving differ markedly among recent studies.[3] If the elasticity is low, it may be a consequence of the fact that a large proportion of personal saving is contractual in nature - done through life insurance and pension plans, where the prime consideration is the insurance protection rather than the saving element. (The predominance of group plans may also be a factor, since they are likely to be selected largely on the basis of considerations other than the interest rate assumptions implicit in the plans.[4])

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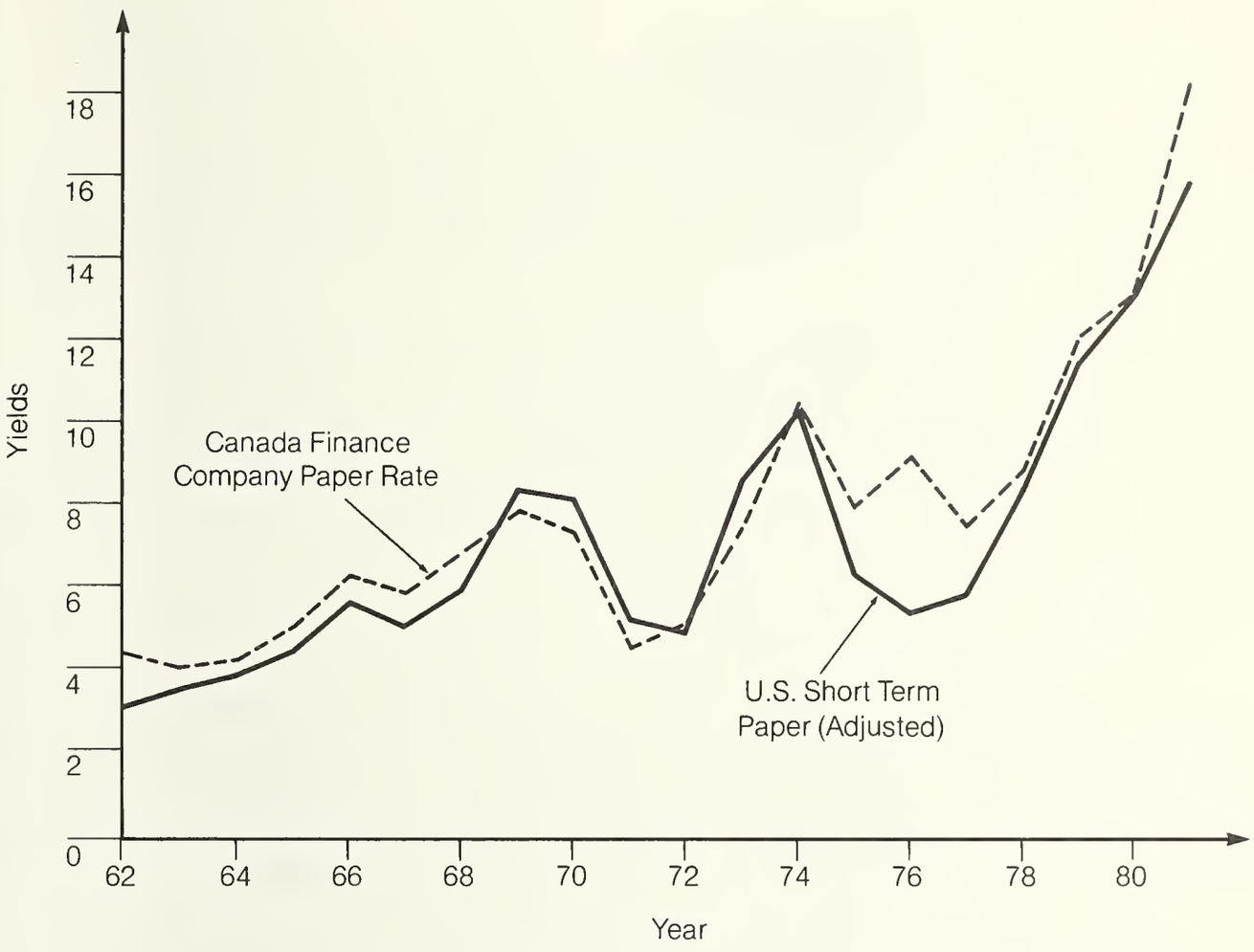
of Canada-Ontario have a higher discount rate than governments think socially desirable, 'forcing' more saving would reduce current economic welfare, as it is usually defined. This, however, is a 'tricky' point.

2 The preciseness of this relationship will depend on differences in exchange and the inflation risks associated with different currencies.

3 See the Technical Paper 'The Personal Income Tax: Implications for Saving, Investment, and Pensions' by Robin Boadway and Neil Bruce.

4 Because insurance policies and pension plans (annuity contracts) are extremely complicated, price competition may work most imperfectly.

Figure 9.1
Canada — U.S. comparison of percentage yields on 90-day paper



Source: *Statistics Canada* (CANSIM) Tables on "Selected Canadian Bond Yield Averages and other interest rates" and on "Selected International Bond Yield Averages and other interest rates".

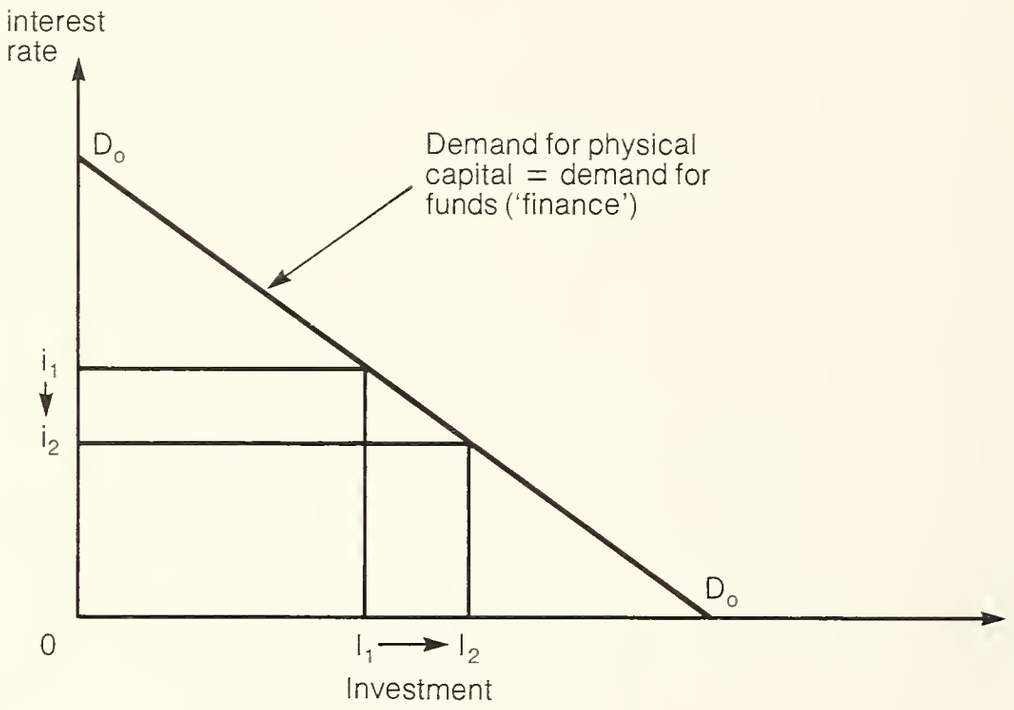
Target oriented lifetime consumption expenditure averaging could give the same result, as will be discussed in Chapter 10.

What follows is an attempt to explain, in diagrammatic terms, the personal savings/investment relationship in a small, open economy in contrast to a large, closed economy. It abstracts from the problems of inflation and unemployment.

THE SAVINGS-INVESTMENT RELATIONSHIP

As is explained in considerable detail in Chapter 11, the demand for physical capital investment is determined in the first instance by the marginal value product of capital (additional output x price of output of an additional unit of physical capital - i.e., I = investment). When an

Figure 9.2



additional unit of capital is expected to increase the present value of the firm (increase the capitalized expected net after tax corporate earnings), it will be acquired and used. This will be the case when the marginal value product of the last unit of capital added by the firm just covers its 'user cost'.

One of the determinants of the user cost of capital is the 'cost of finance', and a major determinant of the cost of finance is the prevailing interest rate. (The cost of new equity and retained earnings, as explained in Chapter 11, are related to the prevailing market rate of interest.) By holding the other cost elements constant (i.e., essentially the corporate tax rate, the investment tax credit, the capital cost allowance, and depreciation), it is possible to determine the relationship between changes in the interest rate and changes in the rate of investment, such that in equilibrium the marginal value product of capital just equals the user cost of capital. This relationship will depend on the demand for final goods. It represents, therefore, the derived demand for capital at alternative interest rates. Any excess of desired capital over the existing capital stock will be reflected in net investment.

Because it is a technological fact that additional physical capital inputs yield ever-diminishing additions to output when other inputs are held constant, one would expect that in order to induce ever more invest-

ment interest rates would have to be ever lower. This means that the demand for capital relationship will be inverse: the lower the interest rate, the greater the flow of investment. This is depicted for a hypothetical situation in Figure 9.2, where D_oD_o depicts the sum of the physical capital (i.e., I) demand schedules for all firms.[5]

The slope is determined by the sensitivity ('elasticity') of investment (I) to interest rates (i). Do small changes in i bring about relatively small or large changes in I? This is a difficult factual question (on the basis of the available studies one must conclude that the 'answer' is not known).

In order to obtain a shift in the demand schedule D_oD_o to, say, D_1D_1, as depicted in Figure 9.3, there would have to be an increase in product (output) prices or a reduction in the cost of the physical asset or other import prices or an increase in the physical output per additional unit of physical capital. The converse of one or all of these changes would reduce demand - a shift to the left. These shifts to the right or left of D_oD_o are <u>not</u> what this chapter is about.

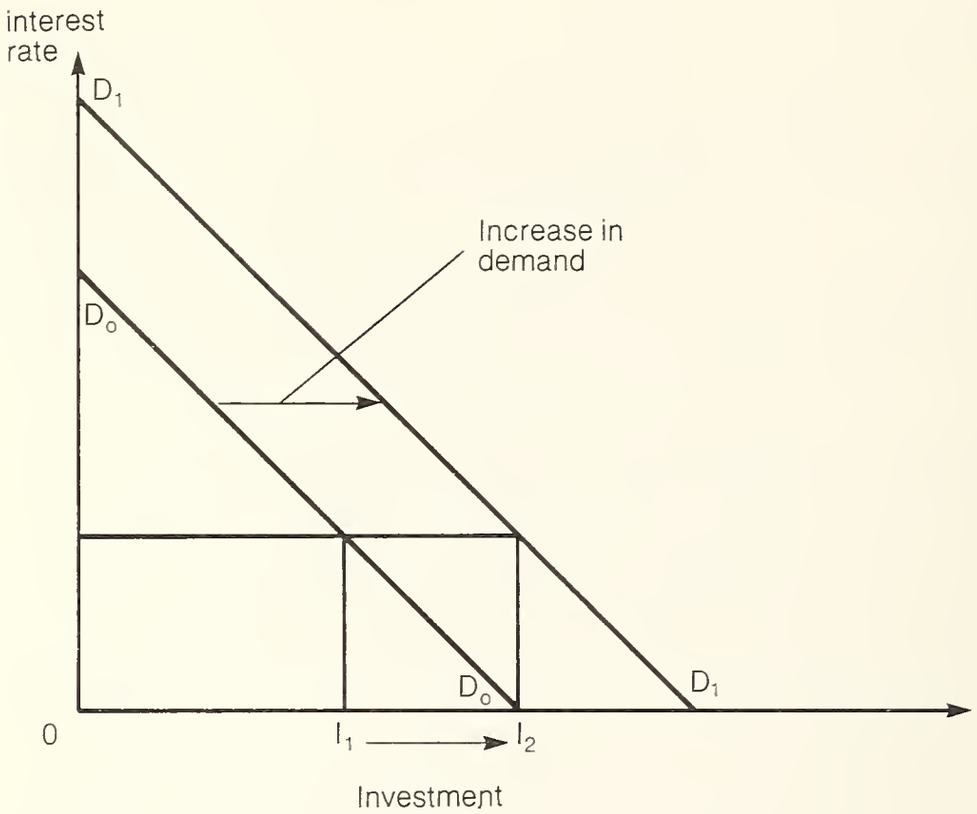
The demand for funds to finance capital investment is derived from and is identical to (in dollar terms) the demand for the physical capital needed in production and distribution. Consequently, one can treat the hypothetical investment demand schedule as a demand for funds schedule.

The demand for funds schedule, D_oD_o, assumes that non-interest cost factors are fixed. But what of a change in taxes? Most of the tax provisions involved are those related to the determination of taxable business income, the CCA, and the investment tax credit, and, as such, are not directly germane to this report, which focusses on personal income tax only.[6] Putting aside the tax treatment of unincorporated businesses, and concentrating solely on corporations, the PIT structure affects the demand for funds by affecting the cost of finance with respect to new equities and retained earnings. As was stated earlier, the more generous the treatment of corporate source income in the hands of individual shareholders, the

5 The demand for investment schedule for each firm is downward sloping (more is demanded at lower prices). D_oD_o in Figure 9.2 represents the horizontal addition of these individual firm schedules.

6 The decision to exclude the taxation of business income was made on the basis of time and resource constraints. In fact, business income determination is relevant to personal income taxation insofar as unincorporated businesses are concerned. This matter is dealt with in the Boadway/Bruce Technical Study.

Figure 9.3



higher the price of shares, assuming the marginal share buyers are resident, and the lower the cost of equity/retained funds, the lower the user cost of capital.

In point of fact, however, in a small, open economy there is no assurance that the marginal buyer of the shares of a particular Canadian corporation at a point in time would be a resident (the 'marginal buyer' changes with economic circumstances and government policies - national and international - including tax policies). Because the marginal buyer determines (unwittingly) the price of the shares of the corporation, if the marginal buyer is non-resident, changes in the Canada-Ontario PIT that would increase the after-tax return on Canada-Ontario corporate source income to residents only would have no effect on the price of shares. (They would, however, increase the net investment income of the resident shareholder.) Capitalization of the benefits to residents would not take place. The PIT changes would simply provide resident shareholders with a windfall tax saving. The user cost of capital would not change.

In Figure 9.2, the market interest rate declines from i_1 to i_2 and the investment in physical capital increases from I_1 to I_2. But what determines the interest rate i? (Recall that the costs of non-debt finance are

closely related to i.)

The prevailing interest rate (ignore the fact that there are, at any point in time, a whole spectrum of rates that we can assume here differ by a relatively constant number of percentage points) can be thought of as the rental price of money. The prevailing interest rate is that which 'clears the market': it is the rental rate for funds at which the flow of funds made available as a result of saving from all sources just equals the flow of funds that borrowers demand to finance the acquisition of capital. (We ignore here the other kinds of demands for funds.) Unlike the demand for funds that is inversely related to the interest rate, however, the supply of funds (savings) is usually assumed to be directly related to the interest rate. At higher real after-tax interest rates more is saved, and conversely. This relationship is depicted in Figure 9.4, where schedule S_oS_o relates changes in the flow of funds supplied (S) to the prevailing interest rate i.

As with investment, the same elasticity question arises: How sensitive is S to i? Do small changes in i bring about small or large changes in S? Here too the answer depends upon the analysis of the data. Thus far the existence of the relationship is 'not proven', according to Boadway and Bruce.[7]

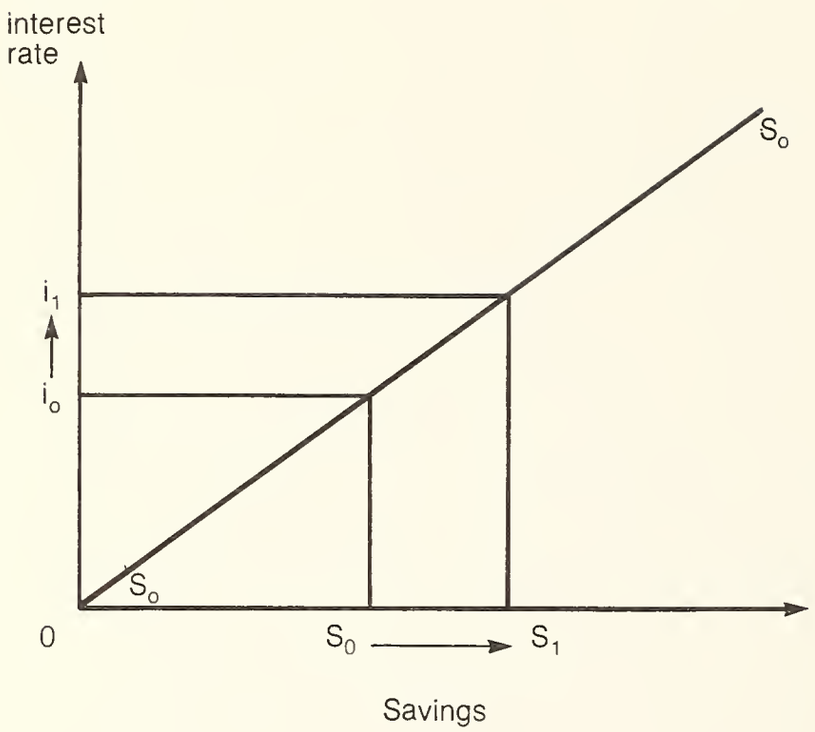
When personal taxes are changed, S_oS_o shifts to the left or to the right. With a reduction in taxes on personal saving that increases the after-tax yield, the volume of personal saving at each nominal rate rises and the supply of savings schedule shifts to the right, as is depicted by line S_1S_1 in Figure 9.5. Here too the savings supply is the horizontal sum of the supply schedules of individual savers.

Because we know that saving and investment are expressed in a common denominator, real dollars,[8] and that both are related to the same common factor, the interest rate, we can combine Figures 9.1 and 9.3. The bottom axis signifies both the quantities of saving and of investment, and the vertical axis signifies the prevailing (common) rate of interest.

7 See the Boadway and Bruce Technical Paper. Their summary comments on the issue are given in Chapter 11.

8 For simplicity, we have assumed that there is only one international currency termed 'dollars'. In reality, of course, each nation has its own currency and they are related to each other through exchange rates. This complex subject is dealt with by Boadway and Bruce in their Technical Paper. Nothing of substance is lost in the current context by our simplifying assumption, however.

Figure 9.4

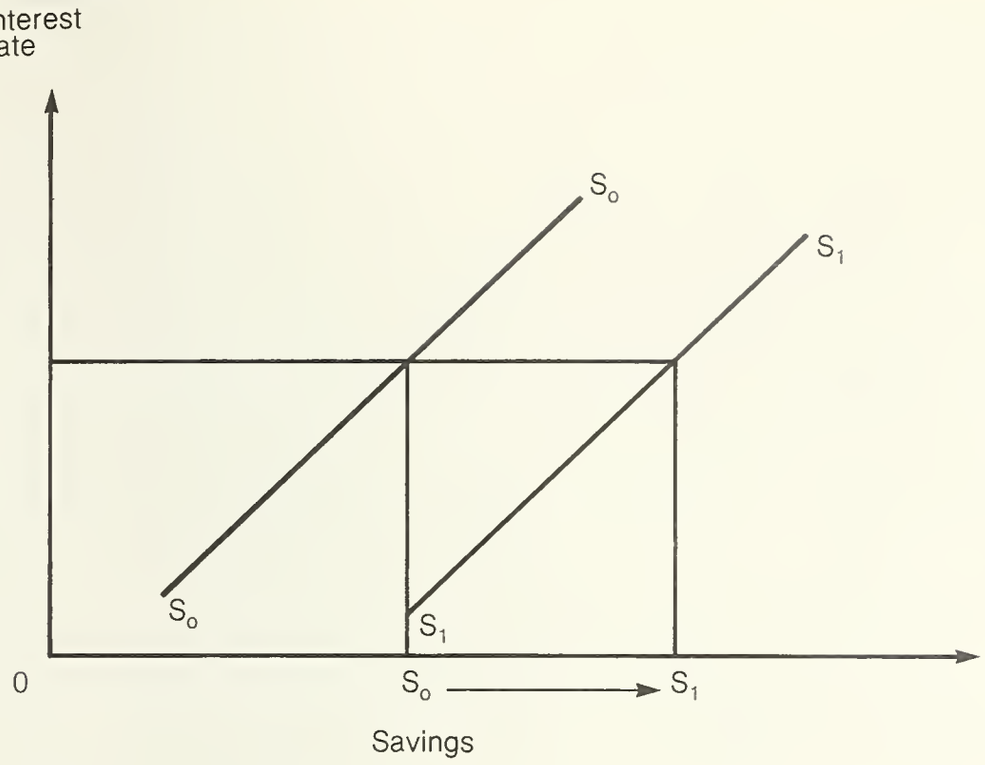


This is done in Figure 9.6. It shows that under our simplified, hypothetical situation, in which current taxes are embodied, the market for funds is cleared at an interest rate of i_o, the so-called 'equilibrium' interest rate. Before we consider how these schedules interact, a vitally important underlying assumption with respect to the interest rate/savings schedule must be considered. It can be thought of as a question of scale and is related to the issue of the mobility of funds.

Figure 9.6 involves aggregate flows of saving and investment per period of time in a particular, but unspecified, market. If Canada (or Ontario) were a large economy completely isolated from world markets, the savings-investment relationship depicted would be appropriate. Savings and investment would be equilibrated at a rate of interest determined in that market. As previously mentioned, PIT changes that were favourable to personal saving would shift S_oS_o to the right. Interest rates would decline and investment would increase. This is <u>not</u>, however, a valid picture of the situation that prevails in Canada or Ontario. Because funds are highly mobile geographically, and Canada and Ontario are small, open economies, the prevailing rate of interest in Canada and Ontario is determined, by and large, in a world market.[9] Granted that federal govern-

9 The remaining portion of the analysis in this chapter employs the

Figure 9.5



ment monetary intervention can alter the situation for relatively short periods of time, but insofar as the interest rate is concerned, Canadians are primarily 'price takers'. Canadian (Ontario) savers, generally speaking, will not accept a rate of return less than that available through lending abroad; Canadian (Ontario) borrowers, by the same token, will pay no more for funds than they would have to pay if they borrowed abroad. From the point of view of Canadian capital investment, therefore, the supply schedule of saving appears as a horizontal, straight line: the rate of interest is given and independent of the rate of investment, as depicted in Figure 9.6.

Note the scales on the horizontal axis. The Canadian (Ontario) capital market is a part of the world market, but it is a small part (i.e., hypothetically 100 to 1 as depicted). Shifts in saving and investment by Canadians (Ontarians) are not large enough to affect the world picture.

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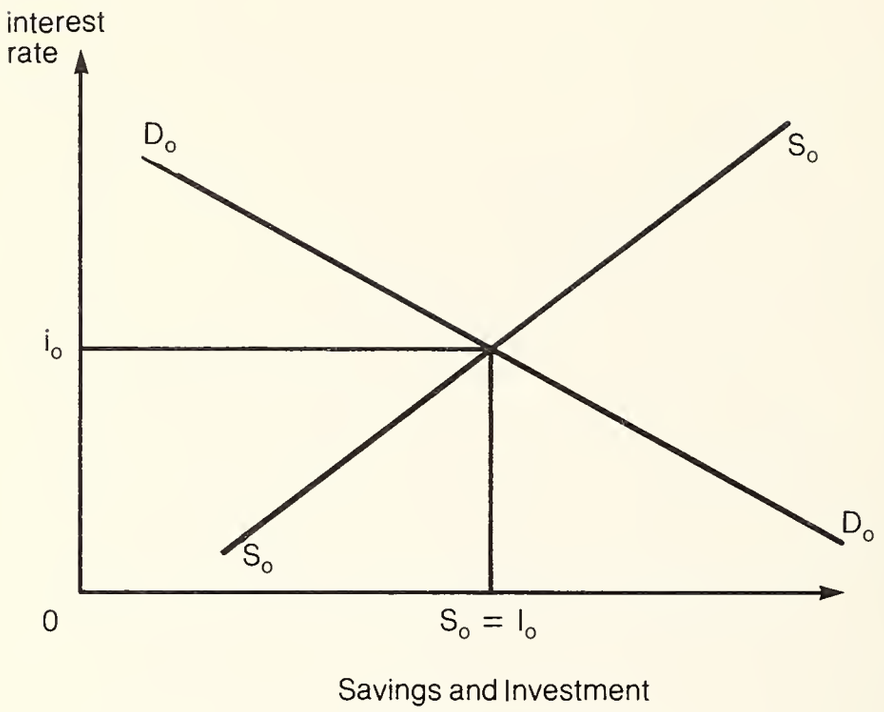
assumption of a perfectly elastic supply of capital. Effectively this means that domestic interest rates are prevented from diverging vis-à-vis the world rate over any time period. Naturally this assumption is thought to overstate the real world, as Canadian interest rates sometimes assume their own course, at least over a short period. However, it is the implications of the small, open economy analysis that are developed in the text that are important and that help us to understand the issues.

Figure 9.6

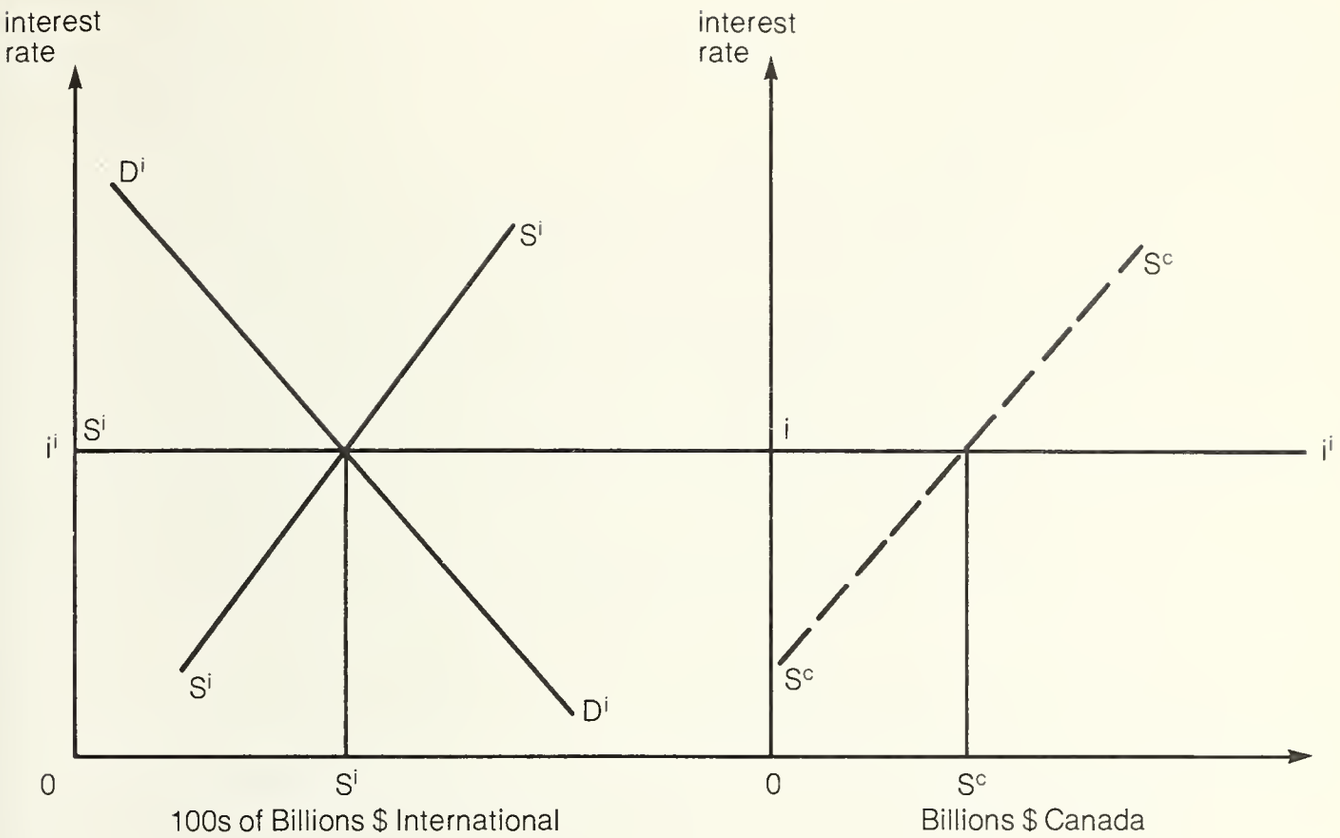


From Figure 9.7 it can be seen that Canadian (Ontario) sources receive the going international rate and that, given the Canadian[10] savings schedule, the quantity of saving is S_C. Assuming that the supply of saving were sensitive to after-tax rates of return, changing the Canadian taxation of capital income in Canada would shift the supply curve S^CS^C to the left (less favourable tax treatment) or to the right (more favourable). This reduces or increases the volume of Canadian personal saving but not the interest rate. Because changes in the Canadian tax treatment of investment income from saving cannot, under our assumptions, change the interest rate (although it is assumed - perhaps incorrectly - that the volume can be increased), they therefore cannot increase the rate of investment. Thus the shift to a consumption expenditure tax base or capital income exempted tax base is not justifiable on the grounds of enhancing Canadian capital investment.[11]

10 Each time the word 'Canada' is used the reader should also read 'Ontario', as the previous parenthetical use of the word Ontario following the word Canada should have suggested.

11 Appendix 6A reports on the impact of a higher domestic saving on potential GNP. The simulation run using the FOCUS model found the effect to be minimal. FOCUS is a small, open economy model of Canada and therefore incorporates an estimate of the degree of capital mobility across Canadian borders. The estimated equation in FOCUS can best

Figure 9.7



The argument can be illustrated by means of Figure 9.8. If Canada had a closed economy, the demand and supply schedules would be like $D^c_o D^c_o$ and $S^c_o S^c_o$, depicted in the figure by the quantity 1. The domestic interest rate, i^c, could be above (as shown) or below or equal to (neither shown) the international interest rate, i^i. With an open economy, however, the interest rate is determined internationally (i^i) and the rate of domestic investment will be as at point 2. Shifts in the demand for domestic investment shift $D^c_o D^c_o$ to the right or left, but the equilibrium level of investment will occur at the point where the Canadian investment demand schedule intersects with the horizontal international supply of saving schedule, $S^i S^i$, as at 2.

The intersection of the domestic supply of savings schedule, $S^c_o S^c_o$, with the international savings schedule, $S^i S^i$, determines the volume of

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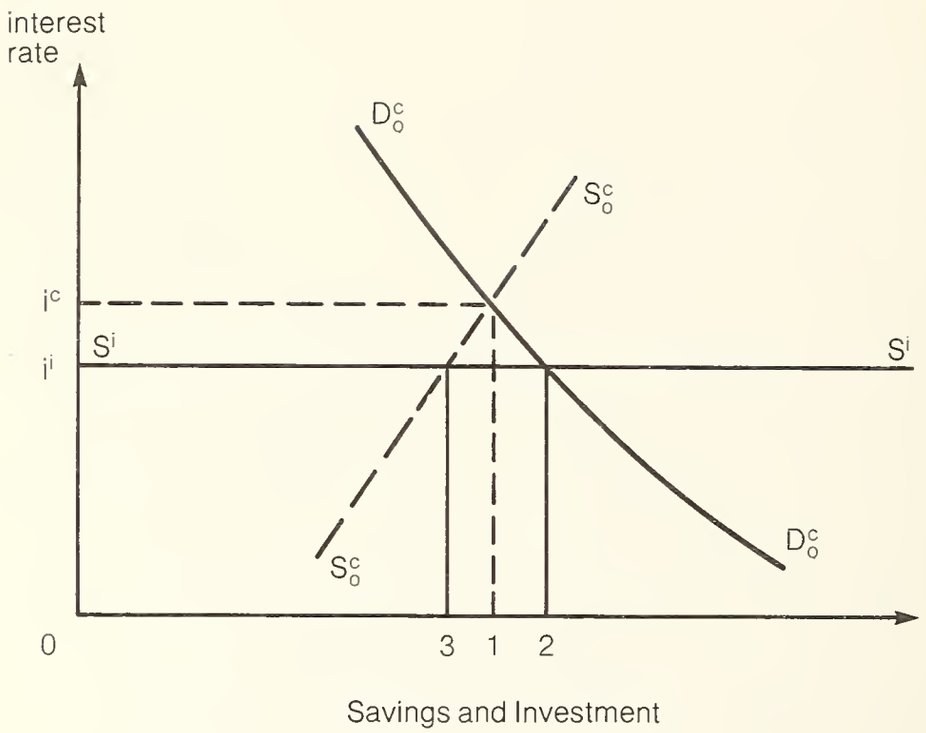
be described as a fairly mobile capital assumption. For example, when domestic savings are increased, the FOCUS model shows a small sustained fall in domestic interest rates, indicating that Canada can maintain its own interest rates to a limited degree. But the net capital inflow also decreases, giving credence to the implications of the small, open economy analysis with perfectly mobile capital.

Figure 9.8



domestic saving, shown as point 3 in Figure 9.8, but not the domestic interest rate. The difference between domestic saving and the saving displayed in domestic investment is accounted for by Canada's reliance on foreign saving, the differences between points 2 and 3 in Figure 9.8.

CAPITAL MARKET IMPERFECTIONS

An important qualification must be attached to the foregoing analysis. The supply of funds available to finance domestic investment is perfectly elastic (i.e., a horizontal line) only when the securities involved are traded internationally or bear a close and relatively stable relationship to those that are. This is only partially true for many unlisted or rarely traded financial instruments, such as mortgages, the shares of closely held corporations, and promissory notes. In these instances, the supply of funds should be analysed as though one were considering a closed, or partially closed, economy, for in effect the market is narrow and investor information imperfect. To an uncertain extent the same is true of the shares of medium-sized and small Canadian corporations that are in a different compartment of the capital market than, say, the shares of the large resource-based companies such as Noranda or Canadian Pacific Enterprises that are traded internationally. The bulk of the analysis in Chapter 11,

'Corporate Investment', is concerned with corporations of the latter type rather than the former. Chapter 13, 'Investment Financing Incentives for New and Small Enterprises', considers the capital market imperfections arguments.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. By international standards, the Canadian-Ontario economies are both small and open - in contrast to, say, the American economy, which is large and comparatively closed. As a consequence, PIT features that conceivably might be effective in increasing personal saving and/or corporate capital formation in the United States are unlikely to be effective here except under special circumstances.

2. In particular, changes in total domestic saving (conceivably resulting from increases in personal saving induced by PIT provisions not offset by reduction in other kinds of saving) would not appreciably change the spectrum of market rates of interest, since the crucial determinant is the spectrum of international rates. More or less Canadian saving would, however, affect the extent to which Canada is a net borrower or lender internationally. This is not immaterial in terms of our current standard of living and that of future generations. However, except under special circumstances, it has little to do with the current level of capital formation in Canada or in Ontario. In a fully employed economy operating at its potential, a reduced dependence on foreign saving necessarily entails either a lower current rate of capital investment (lower growth) or reduced current consumption (lower standard of living).

3. By the same token, although with slightly less certainty, one can assert that the cost of equity capital in Canada is greatly affected by these international interest rates and by the fact that the marginal purchasers of Canadian equities may, in many instances, be non-residents unaffected by Canada-Ontario PIT changes. There is a high probability, although not a theoretical certainty, that PIT changes that increased the after-tax rate of return on Canada-Ontario equity investments would not - again, except in special circumstances - lower the cost of equity capital as a means of stimulating investment.

4. The implications for the analysis of the pros and cons of a separate Ontario PIT are clear: provisions in a separate Ontario PIT designed to increase personal saving, even if successful in increasing total saving (a doubtful proposition), are most unlikely to significantly stimulate capital investment in the province - even if there were no retaliation by other jurisdictions.[12] By the same token, Ontario PIT provisions designed to reduce the user cost of capital by lowering the cost of equity finance are unlikely to be effective except possibly for small and medium-sized corporations, whose shares have an exceedingly narrow market and about which few investors have much information. And here there are direct, simple subsidy measures outside the tax system, such as the Small Business Development Bonds discussed in Chapter 13, that are probably more cost effective.

12 This statement ignores the 'special circumstance' market imperfections alluded to earlier.

10
Personal saving and pensions[1]

The last chapter made the point that increasing personal saving, or domestic saving from other sources for that matter, would not increase capital investment in a small, open economy. Because Canada has such an economy, and Ontario is but a part of Canada, encouraging more personal saving would be a totally ineffective means of increasing domestic capital formation. Nevertheless, it is also true that, in a fully employed economy operating at its potential, increasing total domestic saving so as to reduce our reliance on foreign saving and perhaps even reverse the flow would make future generations of Canadian and Ontario residents wealthier. That is to say, if we were prepared to consume less and save more (always assuming full employment) in order to finance more domestic capital formation or to have less reliance on foreign investment, lower living standards now would pay off in higher living standards in the future. Whether this intergenerational gift, as it were, would be desirable or undesirable is not an economic question except to the extent that there are market imperfections that somehow or other distort capital markets such that the rate of domestic saving does not reflect the aggregated time preferences of resident individuals.

The question at issue, given our subject, is therefore this: does the structure of the present PIT system reduce the rate of personal saving relative to what would eventuate with a more neutral system? Or, in a more pragmatic vein: should governments wish to encourage more personal saving (presumably not at the expense of other domestic saving from other sources), could changes be made in the existing PIT system (or other tax

1 This chapter draws heavily on the Technical Paper prepared by Robin Boadway and Neil Bruce entitled 'The Personal Income Tax: Implications for Saving, Investment, and Pensions'. All references are to be found in this paper.

bases applicable at the personal level) to increase personal saving that would be more effective than other means to that end?

In a sense there is an obvious alternative that, in principle, is simple and at least as effective: forced saving through increased taxation not offset by increased government expenditures - namely through government surpluses (measured on a national accounts basis). By such a policy domestic savings could be increased with certainty. And by redeeming outstanding government debt or by lending the surpluses for business fixed capital formation, it would be possible in principle to force private consumption down or to skim off some economic rents (as is the case with the oil and gas revenues of Alberta) and finance a more rapid rate of domestic capital formation or less reliance on foreign borrowing.

This 'solution' has, however, at least three drawbacks. First, past experience would suggest that governments of the day lack the will to resist vote-attracting expenditures for sustained periods when revenues exceed expenditures. (Or when they fall short of expenditures, for that matter!) Second, the redemption of government debt does not guarantee that some of the funds will not be dissaved when in private hands if they have been acquired through coercive means. Third, the notion that governments would become investment bankers (beyond the extent to which they already play that role!) raises questions about their capacity to make allocative decisions with respect to capital of adequate quality relative to what admittedly imperfect capital markets achieve.

Increased business saving, the third component of domestic saving, could also be encouraged as a means of increasing total domestic saving. This might be accomplished by, for example, reducing corporate income taxes. This would almost certainly increase retained earnings, one of the two components of business savings. Heavily taxing distributed corporate profits and lightly taxing or refraining from taxing retained earnings would presumably cause payout ratios to fall dramatically, particularly if the resulting share gains were either not taxed or were taxed on a realization-only basis as at present.

Such a policy would presumably be effective in increasing business saving, but it has some drawbacks. It is only through corporate income taxation that Canada and Ontario obtain a share of the resource rents that accrue to non-resident shareholders, as is discussed in the next chapter. Moreover, it is moot whether corporate executives would allocate the increased retained earnings as well as the capital market - a market that

would be largely bypassed by the adoption of such a policy. Finally, increased corporate saving would probably be largely capitalized in higher share prices. Individuals could, and probably would, reduce their personal saving to compensate for the increase in their target net worth resulting from the higher prices of their equity holdings.

There is, then, some justification for examining whether there are features of the existing PIT system that needlessly create biases against personal saving and whether other individual tax bases might be adopted that would offer greater encouragement for personal saving.

It is important to remember that we are considering a fully employed economy with little or no inflation and that it is implicitly assumed that more personal saving would not simply be offset by reductions in other kinds of domestic saving. Furthermore, the equity aspects of taxation are always germane and no more so than in the consideration of the taxation of individuals per se. These are the basic issues this chapter seeks to address.

A PIT structure can affect personal savings in two ways. The first is what is called the income (and hence wealth) effect. It is common to all taxes that raise revenue. Obviously, any PIT structure removes purchasing power from the consumer, thereby reducing lifetime wealth on an after-tax basis. If the PIT not only reduces lifetime wealth but also makes saving for future consumption or bequest more expensive relative to present consumption, there is also a substitution effect away from future consumption towards current consumption. This by definition tends to reduce saving.

The present PIT system is a mixture of three types of tax base: a comprehensive income tax that exempts neither saving nor investment income; an income tax with investment income exempt; and a consumption expenditure tax insofar as pension contributions are deducted from current income. As will be shown, a PIT that taxes comprehensive income has both a wealth and a price effect, while a PIT that excludes investment income from the tax base has only a wealth effect. Similarly, an expenditure tax system has only a wealth effect. Because all three have, or through rate changes could be made to have, roughly the same wealth effect vis-à-vis personal saving, it is the comprehensive income base and its attendant substitution effect that has been of particular analytic interest.

There are several provisions in the existing PIT system that move it

from a comprehensive income base towards a net-of-investment income tax base. (A net-of-investment income tax base differs from the comprehensive base primarily in that, as the term denotes, investment income is not taxable and, by the same token, the costs of acquiring the assets are not deductible.) For example, capital gains are taxed only on realization and only to the extent of one-half. The first $1,000 of aggregated interest, dividends, and taxable capital gains is exempt. Dividends from Canadian corporations are eligible for a taxable dividend tax credit of 50 per cent (assuming an underlying corporate tax of 33-1/3 per cent). In some circumstances (for example, with respect to long-term debt, deferred annuities, and permanent life-insurance policies), interest income (like capital gains) has not been taxed on an accrual basis but on a realization basis. However, this deferment has been substantially removed as a result of the November 1981 federal budget. In addition, the imputed income (rents forgone because of owner-use) of consumer durable assets (e.g., housing) is untaxed. These provisions all move the system away from a comprehensive income base. Similarly, interest costs and capital losses are not treated symmetrically with receipts and gains. Interest expense is generally only deductible if the funds borrowed are used for the purpose of earning income from a business or property. By the November 1981 budget, interest on money borrowed for contributions to a deferred income plan is no longer deductible. Neither equity costs nor mortgage interest for personal housing are deductible. The costs of creating human capital (i.e., education and training) are only partly deductible, as was discussed in Chapter 8.

There are also a number of provisions of the tax system that move it towards a consumption expenditure tax base. An expenditure tax base differs from the comprehensive base in that current savings are deductible without limit and the subsequent earnings of those savings are not taxed. Only when the savings are drawn down to finance consumption expenditures are they taxed. This is done by allowing some kinds of savings to be deducted from current income and by taxing the proceeds only when used later. Contributions to Registered Pension Plans within a prescribed limit are tax exempt when made but taxable when received. The same is true of Canada-Quebec Pension Plan contributions and receipts. Savings put into Registered Retirement Savings Plans are also exempt up to prescribed limits, as are contributions to Registered Home Ownership Savings Plans. These various schemes act both as devices to convert the PIT

partly into a consumption expenditure tax system and as devices to allow individuals to average income over their lives. In addition to these devices for self-averaging, the November 1981 budget introduced a new scheme of forward averaging to replace the previous backward averaging system and, unfortunately, eliminated Income Average Annuity Contracts (IAACs).

The PIT system also taxes some capital income generated at source - the business income of unincorporated business. The provisions for calculating the tax base are basically the same as for corporations, but we shall not go into detail here. Suffice it to say that equity income from unincorporated business income is taxed at personal tax rates. This has implications for business saving.

THE DETERMINANTS OF SAVING BEHAVIOUR

In order to understand the effects of the personal income tax on savings it is necessary to consider the possible motives underlying saving behaviour.

Life-cycle theory

According to this theory, households perceive that their income earning capacity will vary over their lifetime. In particular, they anticipate periods in the future, primarily retirement, when their income earning capacity will be low. In addition, it is assumed that households prefer a relatively smooth consumption stream over their lifetime in comparison with their earning stream. Consequently, households save out of income during periods when their earning capacity is high to consume in excess of their income when their earning capacity is low.

Permanent income theory

In a world where there is no uncertainty, this theory is essentially the same as the life-cycle theory. However, when future earning capacity is unknown, the permanent income theory emphasizes the information-processing aspect of household choice. In particular, some income streams are assumed to be permanent additions to the household's lifetime consumption opportunities, while others are assumed to be transitory. The household's saving behaviour thus depends on its perceptions about whether a

particular net-of-tax income stream is permanent or transitory. Changes in the 'mix' of transitory and permanent income streams alter the saving level. What are perceived to be transitory reductions in income are dealt with by dipping into savings to maintain consumption; and conversely for transitory increases in income.

Precautionary motive

In addition to uncertainty about future income streams, the household may have uncertainty about some dimensions of future consumption. Some expenditures such as medical care, child care, etc. may not be foreseen. If the household only has limited ability to borrow, it may wish to 'insure itself' against not being able to afford such necessities out of current income. For this reason, it saves to acquire a buffer stock of wealth out of which to finance unforeseen but necessary expenses.

Bequest motive

The wish to provide an intergenerational transfer of wealth to descendants is another possible motive for saving. If a household derives satisfaction from the consumption of its heirs, it will be motivated to make transfers to them. This does not necessarily mean that the household is induced to save specifically in order to make inter vivos transfers (gifts). However, for various reasons, including the desire to leave larger real bequests than one receives, uncertainty about length of life, paternalism, and others, the desire to make intergenerational transfers can give rise to saving by the household.

The effect of the personal income tax on saving depends on how the tax impinges on these motives. As mentioned, we can separate the effects of the tax into two categories: the substitution effect and the income-wealth effect. For each saving motive, we can examine the substitution and income-wealth effects on saving.

ALTERNATIVE TAX BASES

The effects of the personal income tax on saving are best analysed by comparing the comprehensive income tax base (Scenario A) with the ex-

TABLE 10.1
Present and future values of consumption and taxes under three alternative tax bases assuming: income $100, interest rate 10 per cent, tax rate 40 per cent, period 10 years.

	Current consumption	Future consumption	Ratio future: current consumption	Present value taxes
No tax	$100	$259.4	2.59	N/A
Comprehensive income (Scenario A)	60	113.7[a]	1.89	146.7
Consumption expenditure (Scenario B)	60	155.6[b]	2.59	103.8
Investment income exempt (Scenario C)	60	155.6[c]	2.59	40.0

a $(1.10)^{10}(\$60)\ (1-0.40)$
b $(1.10)^{10}(\$100)\ (1-0.40)$
c $(1.10)^{10}(\$60)$

penditure tax base (Scenario B) and with the investment income excluded tax base (Scenario C). The expenditure base excludes saving and the investment income earned on saving and taxes only the value of household consumption. Under some conditions this is equivalent to an income tax that excludes investment income from the base, Scenario C. As was stated earlier, the Canadian personal income tax system has partly moved towards Scenario B over the past decade, although it moved sharply back toward the comprehensive base, Scenario A, in the November 1981 budget.

As was mentioned earlier, both income and expenditure taxes have wealth effects because they reduce the lifetime consumption opportunities of the household. If the present value of tax revenues collected under each tax were the same, these wealth effects would be the same. Unlike a proportional expenditure tax or a proportional income tax that excludes capital income, the comprehensive income tax also alters the relative price of present and future consumption. This can be seen quite easily from the illustration given in Table 10.1.

First consider the 'no tax' case. Here, the individual has a choice between spending $100 on current consumption or saving for future con-

sumption. By saving $100 and investing it at 10 per cent, $259.40 can be spent on consumption ten years hence or slightly more than two and one-half dollars for one. Now consider the three alternative tax scenarios. Under Scenario A, the comprehensive base, the price is roughly two for one. In other words, giving up a dollar's consumption buys less future consumption compared with the no tax scenario. Current consumption has become relatively cheaper in terms of alternative cost. With Scenarios B and C (consumption and investment income exempt bases, respectively), the relative prices are the same as in the 'no tax' case. Neither Scenario B nor Scenario C would induce a substitution of current consumption for future consumption (i.e., saving).

Note, furthermore, that the present values of the tax collected vary by approximately 360 per cent between A and C. Scenario B falls between. This means that, with a given average rate, the wealth effects are greater for A than for the two other types of base. To obtain the same revenue, rates would therefore have to be highest for Scenario C and in an intermediate position between C and A for B.

The arithmetic of life-cycle saving

In order to illustrate further the significance of the three alternative tax treatments of saving, some additional calculations have been made. They can be divided into two sets. The first set assumes that the life-cycle smoothing of consumption is a valid approximation of the saver's basic motive (over and above the precautionary motive, which is ignored). The second set deals with the changes involved when the bequest motive is also present.

Under certain specific assumptions about the length of life (85 years), the length of working life (45 years), starting earnings ($10,000), the growth of earnings (2 per cent real), the interest rate (3 per cent real), and the tax rate (20 and 50 per cent[2]), the lifetime consumption level can be computed for a hypothetical individual. It is assumed that, in

2 Examples were calculated with flat rates of 20 and of 50 per cent for each scenario. Because Scenarios B and C raise less revenue, the calculations for each of them were reworked so that they yielded taxes with the same present values as Scenario A. The latter are used in the text. See Appendix 10A, entitled 'Comparison of Personal Savings Rates Under Alternative Hypothetical Tax Bases, Rates, and Other Assumptions'.

order to obtain level consumption, the most extreme form of smoothing, the individual borrows in the early working years and repays the loan before retirement. This is taken into account in the calculations, although it is not shown explicitly. The results for the 'no tax' case and the three alternative tax system scenarios are given in Appendix 10A. The savings rate effects are summarized in Table 10.2. There are no bequests assumed in the first two cases, but five years of consumption are bequeathed in the second two cases.

In considering the examples, it is imperative to bear in mind that the results solely reflect the specifications of the problem and the arithmetic of compound interest. They do not reflect the choices individuals make because of the income and substitution (relative price) effects alluded to earlier that are the 'economics' of the matter. By choosing to smooth consumption expenditures over a lifetime, plus an additional five years as a bequest of our hypothetical examples, the decision to save more or less is predetermined by our assumptions about interest rates, tax rates, and so on. Nevertheless, despite their mechanical nature, the calculations yield results that are, in some instances, non-intuitive. These are the highlights:

1. The level of lifetime annual consumption (constant) falls when the present value of tax revenues is higher and/or when provision is made for a bequest. When these two factors are held constant, however, the level of lifetime consumption is unaffected by the definition of the tax base. It is the same for Scenarios A, B, and C. This follows simply because the present value (PV) of consumption (including bequests) and the PV of taxes equal the PV of total income. The variations in savings rates among the scenarios simply reflect variations in the timing of tax liabilities. The level of the savings rate is solely a reflection of the proportion of the PV of lifetime taxes paid before and after retirement. The more taxes are delayed, the greater the savings rate must be to meet the impending obligation.

2. The savings rate (as a fraction of gross earnings) is highest for the consumption expenditure base and lowest for the investment income exempt base. The savings rate required with the comprehensive income base is between the other two but closer to the consumption

TABLE 10.2
Hypothetical savings rates as a fraction of gross earnings for three alternative income tax bases, with level life cycle consumption, with tax rates of 20 and 50 per cent for Scenario A and the rates necessary to raise the same revenues for Scenarios B and C with and without 5 year bequests

	No tax	Scenario A (comprehensive)	Percentage difference to no tax case	Scenario B (consumption)	Percentage difference to no tax case	Scenario C (investment income exempt)	Percentage difference to no tax case
Marginal Rate 20 Per Cent							
No bequest	11.4	10.7	- 6.4	11.4	0	8.9	-21.8
Bequest	13.8	13.0	- 5.9	13.8	0	10.8	-22.3
% Change	+21.0	+21.5		+21.0		+21.0	
Marginal rate 50 per cent							
No bequest	11.4	8.3	-27.2	11.4	0	5.4	-56.6
Bequest	13.8	10.2	-26.1	13.8	0	6.4	-53.6
% Change	21.0	22.9		21.0		18.5	

base. The higher savings rate with the consumption base arises because no taxes have been paid on post-retirement consumption. With the comprehensive base, the only taxes that arise post-retirement are with respect to investment income.

3. The savings rate for the consumption expenditure base is the same as for the 'no tax' example. This holds without regard to the tax rate. The reason is that although the tax rate greatly affects the level of lifetime consumption, it does not affect the size of the provision that must be made for post-retirement consumption. The pre-retirement/post-retirement consumption split is invariant in present value terms with respect to the rate of tax.

Given the nature of the problem posed and the assumptions made, one must conclude that, other things being equal, with a consumption expenditure tax the rate of tax and the rate of saving are completely unrelated. Moreover, moving from a comprehensive income base to an investment income exempt base reduces the rate of saving! While arithmetically correct, these findings are implausible because they are based on the implicit assumption that individuals set savings targets without regard to the features of the prevailing tax structure, including rates. This presumably is false. The notion that personal saving is undertaken without purpose is, however, equally implausible. It may be that the motives for saving are much more complex, and no doubt more diverse among individuals, than economists have been wont to believe. One might suppose they vary between those who discount the future so heavily that they do not wish to save at all to those who set as their target the maximization of their estate at death. And no doubt the attitude of many individuals towards personal saving alters over time.

Although the life-cycle consumption smoothing explanation is widely accepted within the profession as the motive for personal saving, there is some recent American evidence[3] that the observed level of transferable wealth has been much too high for this explanation to hold. Because the precautionary motive is unlikely to account for a massive difference in personal saving over and above the life-cycle purpose, it would appear

3 Laurence J. Kotlikoff and Lawrence H. Summers, 'The Role of Intergenerational Transfers in Aggregate Capital Accumulation', Journal of Political Economy, 89(4), August 1981, 706-32.

that the bequest motive must play a more important role than has been heretofore recognized. This in turn strongly suggests that the abolition of death taxes in Canada (except in Quebec) in the late 1960s and 1970s was vastly more important than is generally understood. If personal savings were to be treated even more generously than they are now, given that bequests are taxed neither to the donor's estate (except for the deemed realization of deferred capital gains) nor to the recipient, there is a distinct possibility that massive pools of wealth would be (are being?) accumulated by families over a few generations.

Some implications

From these illustrative examples we can readily infer that the shift from a comprehensive income base to either a consumption expenditure or an investment income exempt tax base is more than a simple matter of eliminating the 'double taxation' of saving. There are major (and probably for most individuals unpalatable) revenue and social-equity implications. Even the oftstated economic efficiency gains are open to question.

If there were no other distortions in the economy, the distortion of the household's savings decisions would impose an efficiency loss on the economy. In fact, there are other distortions. Both the expenditure and income taxes (in either form) alter the choice between market goods and non-market goods such as leisure, because the latter escape taxation. In the face of such distortions, the question of whether an income tax is inefficient, relative to an expenditure tax, becomes more complicated and the answer most uncertain.

Further distortionary effects on saving result from the progressivity of the tax. Uneven income streams are taxed more heavily under progressive tax systems without adequate averaging. To the extent that wealth accumulation makes the lifetime income stream more uneven, with inadequate averaging provisions a further savings disincentive effect arises. In particular, a progressive investment income exempt tax (labour income only tax) is not equivalent to a progressive expenditure tax because expenditure varies less over a household's lifetime than does labour income. Because of this, a progressive income tax that excludes investment income still provides a disincentive to save for retirement relative to an expenditure tax.

There are numerous ways in principle to average income for tax pur-

poses. Some methods, such as forward, backward, block, general, and lifetime averaging, are appropriate from a comprehensive tax base viewpoint. Others, such as Income Averaging Annuity Contracts and Registered Retirement Savings Plans (IAACs and RRSPs), etc., also involve deferral of taxes on income saved and are appropriate for averaging an expenditure tax. The saving effects and relative merits of different averaging schemes must be considered on a case by case basis. Time and resources do not permit this report to further explore this important but technically difficult question, although pensions as an averaging device are considered below.[4] It is important to note that a flat-rate tax with exemptions or refundable credits, as discussed in the Introduction, would eliminate this problem.

The quantitative impact of personal income taxes on aggregate saving is an empirical question. The Boadway/Bruce study carefully reviews the voluminous empirical evidence, some of it quite recent, that has been accumulated by a substantial number of researchers concerning the elasticity of private saving and the sensitivity of personal saving to market interest rates and after-tax rates of return. The interested reader is referred to that study for a detailed critique of what is known on the subject. Suffice it here to quote its conclusions: 'It is fair to say that the evidence on the effect of taxation (and other variables) on saving is inconclusive at best' and 'At the moment the best verdict concerning empirical evidence of tax incentives on saving is not proven.'

DISTORTIONS IN THE EXISTING SYSTEM

Under the current tax system there are few forms of investment income that completely escape distortionary taxation. The most obvious case is that of income from interest, dividends, and taxable capital gains up to $1,000 per year. For persons who earn less than $1,000 from these sources, the exemption renders the tax system nondistortionary from their point of view. These are mainly lower income persons. For persons earning over $1,000, the exemption represents purely a lump-sum tax saving and has no effects on the distortion of the tax system on savings at the margin. Notice that in real terms this exemption is declining every year because it is not indexed.

4 The question is dealt with extensively in Boadway and Bruce.

The other forms of saving which are treated in an almost non-distorting fashion are savings for retirement - RRSPs and RRPs (until the November 1981 budget, Income Averaging Annuity Contracts (IAACs) had the same effect). As discussed in Appendix 10B, entitled 'The Tax Treatment of Pensions as Approximations of a Consumption Expenditure Tax', these operate like expenditure taxes in some respects, in terms of contributions and investment income, but they are taxed when taken out in retirement whether or not they are used for consumption purposes. Thus, they are not true expenditure taxes. Nonetheless, they provide only a minimal effective tax on savings. However, because there is an aggregate upper limit on RRSPs and RRPs, if a person wishes to set aside more than that limit for retirement savings, the full substitution rate comes into play and RRSP/RRP provisions become simply infra-marginal lump-sum tax savings or averaging devices. Once again, the failure to index the contribution limits means that these plans become less and less effective in eliminating the adverse substitution effect, since more and more persons save above the limit.

Registered Home Ownership Savings Plans (RHOSPs) are treated even more generously than they would be under an expenditure tax. Contributions are deductible and the benefits are not taxed. Provided eligible persons would otherwise save for housing an amount less than the upper limit, this provides an effective subsidy to accumulation for housing purchases. It distorts in the other direction, therefore, by imposing a negative tax. Furthermore, under the present provisions of the RHOSP program, persons have an incentive to postpone purchase of a house so as to accumulate the maximum amount allowed for a subset of the population. This is a strong incentive to save.

Most other sorts of preferential treatment of capital income are not generous enough to remove the distortion entirely: instead, they reduce the effective tax rate on investment income below the corresponding rate on labour income. Some types of investment income, including taxable capital gains, whole life policies, and some forms of interest income, are taxed on realization rather than accrual. In effect, government gives creditors an interest-free loan equal to the tax owing on the investment income, an arrangement that reduces the effective tax rate on these forms of savings. Savings used to purchase consumer durable assets escape taxation on the assets' imputed rent; moreover, capital gains on such assets are untaxed. On the other hand, they are denied interest deduct-

ibility on debt financing. The net effect is probably a lowered effective tax rate. Other types of investment income are taxed more or less fully, including interest and returns to equity above the exemption. Investment income earned from abroad is taxed effectively more heavily than that generated domestically. This is because foreign taxes withheld at source are generally credited in Canada, but the dividend tax credit intended to compensate for corporate taxes paid does not apply to foreign source dividends.

We have concentrated mainly upon provisions of the PIT that reduce the effective tax rate on investment income relative to the comprehensive income base. There are, however, a number of provisions that make the treatment of capital income even less generous than it would be under a comprehensive income base; that is, they make the effective tax on investment income greater than that on labour income. One general category of such cases consists of those in which gains and losses are not treated symmetrically. For example, capital losses in excess of capital gains have very limited deductibility against other income of an individual. Similarly, costs of saving to accumulate human capital are not fully deductible, so the effective rate of tax on returns to human capital is relatively high.

Another category consists of investment income that is taxed by more than one type of tax. For example, and as considered later, the corporate income tax effectively taxes some of the returns to equity capital. Because the current integration system is less than perfect, the effective tax on this source of capital income is relatively high (assuming no shifting). In addition, the property tax has a similar effect. It can be viewed as equivalent to a tax on real property income.

The upshot of this discussion is that the current PIT system is a mixture of comprehensive income taxation, expenditure taxation, and the discriminatory tax treatment of investment income. Few forms of investment income go untaxed, as would be the case under expenditure taxation. From a purely efficiency point of view, the existing tax system distorts savings decisions, sometimes significantly. However, there are other distortions, and it is impossible to say in general whether or not the distortions in the tax system correct for or magnify them.

PENSIONS

Households use a number of instruments to save for retirement. We have

discussed the use of private savings for this purpose. Here we consider the use of pension schemes. Pensions are afforded special treatment under the PIT system, and this treatment raises a number of tax policy issues, some of which we have already touched upon. Pensions arise because of the divergence of income and consumption streams over the life of a typical individual. Income accrues heavily in the working years, but consumption must be provided for in retirement. Pensions are a way of smoothing one's income stream into a lifetime consumption stream. The PIT treatment of pensions tends to result in the smoothing of one's lifetime tax payments as well.

This raises a number of issues of substance for taxation. The use of pensions to smooth out one's stream of tax payments is a form of income averaging over the life cycle and can be viewed as being desirable on equity grounds. An obvious question is whether or not the existing tax treatment of pensions gives rise to the optimal type of averaging. A related issue has to do with the fact that, in some instances, pension vehicles serve as a means of moving the tax system towards an expenditure tax and away from a comprehensive income tax. This has both economic efficiency and equity implications for tax policy. The use of pensions as averaging devices and their implicit role as instruments of expenditure taxation are closely related. The tax treatment of pension schemes would have to be somewhat different than at present if one preferred a comprehensive tax and also sought to maintain lifetime averaging. The existing tax provisions represent a partial move towards an expenditure base. (See Appendix 10B.)

In Canada, four kinds of pension instruments receive special treatment under the tax system - Registered Pension Plans (RPPs), Registered Retirement Savings Plans (RRSPs), the Canada (and Quebec) Pension Plan (CPP/QPP), and Old Age Security with its Guaranteed Income Supplement (OAS/GIS). Some provinces also provide supplementary benefits to pensioners out of their own revenue sources. For example, Ontario has an income-adjusted transfer system for persons 65 years of age and over called the Guaranteed Annual Income System (GAINS). In addition, the aged in need may take advantage of the various welfare programs financed jointly by the federal and provincial governments under the Canada Assistance Plan (CAP). Finally, certain types of in-kind transfers provided by the government to the aged can be viewed as implicit substitutes for retirement income. Medicare is a prime example.

The tax treatment of Registered Pension Plans (RPPs) is straightforward. Contributions by individuals to such plans are tax deductible up to $3,500 per year, as are contributions by employers on the employee's behalf. This limit is not indexed. Investment income accumulated in the pension fund is also tax exempt. Pension benefits are taxed as ordinary income upon receipt by the contributor or his or her spouse, as the case may be. However, the first $1,000 of pension income (excluding OAS/GIS and CPP) is tax exempt each year. This limit is not indexed either. There is, in addition, an exemption of $2,220 (in 1982) for all persons 65 years of age and over. This sum is indexed to the CPI.

Contributions to Registered Retirement Savings Plans (RRSPs) made by a taxpayer on his own or on his spouse's behalf are tax deductible up to a limit of the lesser of $5,500 per year or 20 per cent of earned income if no RRP contribution is made, or the lesser of $3,500 or 20 per cent of earned income less RPP contributions. These limits are not indexed. As well, certain other receipts, such as retirement allowances, severance payments, and pension payments, can be rolled over tax free into an RRSP. The investment income earned on the fund is tax exempt with no limit. At least 90 per cent of RRSP funds must be invested in Canadian securities, and then only in bonds, mortgages, stocks, or certain life insurance polices.

Taxpayers can draw down RRSP funds when they wish, but such funds are fully taxed on withdrawal. This feature makes them suitable as an income averaging device. Spouses can treat withdrawals as their own income only after a waiting period of two years from the last contribution, thus precluding the reduction of taxes for the family unit through income splitting. By one's seventy-first birthday, all RRSP funds must be used to purchase either an insured annuity or a registered retirement income fund that provides income until age 90 plus a capital balance. RRSP benefits are eligible for inclusion in the annual $1,000 pension income deduction, and until the November 1981 federal budget taxpayers could deduct interest on money borrowed to finance contributions to RRSPs.

RPPs and RRSPs comprise the 'private' part of pensions. The 'public' component consists of OAS/GIS and the CPP/QPP. OAS is a lump-sum payment ($2,295.36 per year in 1980) to all persons 65 years old and older. The GIS is an income-tested payment to the same cohort. In 1980, the maximum GIS was $2,304.36 per year. This is reduced by $1 for every $2 of personal income of the recipient until it disappears. Notice

that other pension receipts are included in personal income subject to the 50 per cent 'tax-back'. The tax-back rate on public pensions increases significantly when provincial supplements (e.g., GAINS) are included, because most of them are income-tested as well. Both OAS and GIS are taxable income to the recipients, although GIS recipients are effectively non-taxed due to the system of income tax exemptions. They are financed out of general revenue and thus are like Pay as You Earn (PAYE) pension systems. The amounts received under OAS and GIS are both indexed to the CPI.

The CPP is a contributory pension scheme according to which benefits are financed from a fund accumulated through a payroll tax of 1.8 per cent of the members' earnings paid both by the member and the employer. The earnings to which the tax applies are subject to a maximum ($13,100 in 1980) and there is an exemption at the lower end. There are five kinds of benefits: a retirement benefit (25 per cent of average career earnings is paid subject to a maximum - $2,933.28 in 1980), survivor benefits, disability pensions, death benefits, and dependent children's benefits. The ceiling for pensionable earnings rises with the average industrial wage, while CPP benefits are indexed to the CPI. Contributions to the CPP are tax deductible, while benefits are taxable when received.

Although there is a fund associated with the CPP, the plan is not fully funded in the actuarial sense. That is, the value of payroll contributions on behalf of an individual falls short of the expected benefits in present value terms. Thus, the scheme differs from a private pension scheme, since the fund is bound to be exhausted in the future unless contributions are raised or benefits reduced.

OAS/GIS tax-back provisions

At lower income levels, the favourable relative price effects of the tax treatment of RRSPs from a saving maximization point of view may be limited by the tax-back provisions of the OAS/GIS system. Federal payments under GIS tax back other income, including RRSP benefits, at a 50 per cent rate, and this rate is increased significantly by provincial supplements, including GAINS. For potential recipients of the GIS, this blunts, considerably, the incentive to save, especially through RRSPs. However, one might doubt the relative importance of this fact, given the low income levels involved.

Pension income deduction

There is one provision of the PIT treatment of pensions that moves the system too far in the direction of expenditure taxation: the $1,000 pension income deduction. This amounts to a double deduction for capital income, because the pension income subject to the deduction has already been allowed to accumulate tax free. It is difficult to find a rationale for the $1,000 deduction. It is not needed as an offset for inflation (although that was the stated intention) or as a deduction of capital income. Further, it is an ineffective redistributive device, since it is worth more to persons in higher income tax brackets than it is to those in lower brackets.

The allocation of RRP and RRSP funds to asset types is also affected by tax and other provisions. We have already noted the limitation on types of assets that may be held (bonds, stocks, mortgages, and life insurance) and the fact that at least 90 per cent of these assets must be Canadian. The tax system also influences asset types. Pension receipts are treated as ordinary income when taken out of the plan, despite the fact that some originate in equity income which otherwise obtains favourable treatment in the tax system. Pension funds obtain neither the dividend tax credit nor the preferential treatment of capital gains, so effectively they are not integrated with the corporate tax. This implies that the return to equity ownership in pension funds relative to bonds is lower than that obtained by owning equity directly. This could partly account for the observed tendency of pension moneys to be used to purchase a high proportion of fixed interest assets relative to equities.

Housing

A significant amount of saving for life-cycle smoothing takes the form of acquiring equity in owner-occupied housing. Because this equity is, in a sense, a substitute for other forms of retirement savings, and because special tax treatment is entailed, it might be worth briefly reiterating the tax treatment of this form of saving. Basically, the return from investing in one's principal residence is tax free. This is true not only with respect to the imputed rent (the rent forgone because of the owners' occupancy), but also with respect to any capital gain that accrues over time or is realized upon sale. At the same time, the costs of acquiring

equity in the home, such as mortgage interest, depreciation, maintenance, and the forgone earnings on the owner's equity, are not tax deductible. Proceeds from rental accommodation are subject to taxation and costs are deductible.

The tax-free status of owner-occupied housing arises in part from the administrative costs that would be involved in including imputed rents in income. This status does however give rise to some anomalies. For one thing, although mortgage interest is not deductible to the homeowner, it is typically taxed in the hands of the lender. Because the tax is on nominal (i.e., includes inflation component) interest returns, in the absence of asset or income indexation, part of the real value of the principal is taxed under inflation conditions. The capital markets enable lenders to recoup at least part of this tax on principal, primarily by increasing nominal interest rates by more than the rate of inflation. Consequently, with inflation, mortgage rates rise, thus making financing of home ownership more costly.

Putting aside the questions raised by the effects of inflation on nominal interest rates, the current PIT system overall provides an incentive to accumulate wealth in the form of housing relative to other non-pension assets. On the other hand, if one wished to run down one's equity in housing during retirement, the capital income gained would be taxable. Thus, as a vehicle for saving for retirement, housing is only effective from a tax standpoint if the housing services are to be fully consumed. On the other hand, unlike pensions, housing can be readily passed on to one's heirs. The strong tax advantages of saving for bequest in the form of housing perhaps go a long way toward explaining why housing assets figure so prominently in bequests. The current tax system, being a mixture of income- and expenditure-based taxes, effectively locks the aged into holding housing assets and prevents them from entering into so-called reverse mortgages to run down this form of wealth near the end of the life cycle.

Fairness considerations

Finally, there are equity aspects to the exemption of capital income from the tax base under RPPs and RRSPs. There is no doubt that the benefits of these programs accrue more to persons in higher income brackets, both because the proportion of persons who take advantage of the programs

rises with income class and because the value of the capital income exemption is higher for them. This is partly offset by the fact that there is an upper limit on contributions.

One final point may be made. If one were to opt for a comprehensive income PIT base, all capital income would be fully taxable and indistinguishable from other income and negative investment income would be treated symmetrically with positive capital income. That is to say, all capital losses, whether due to interest payments on debt or to capital losses on equity, should be allowed a full loss offset. Under expenditure taxation, however, capital cost incurred in the acquisition of assets that generate income that is not taxed (e.g., housing and other durables, RRSPs, etc.) would not be deductible. Thus, the move in the November 1981 federal budget to disallow interest deductibility on debt used to acquire RRSPs and other sheltered assets was, in this context, sensible. However, consistency requires that under an expenditure based tax, interest on debt used to finance current consumption expenditures should be deductible immediately. This is at variance in some respects with existing tax treatment.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. Is the level of saving in Ontario too low? If so, could the problem be alleviated by changes in the provincial component of the PIT? A concern with savings rates is often expressed but rarely justified. In some cases, concern expressed in Canada seems to be simply an echo of concern being expressed in the U.S., which may or may not be relevant to Canada.

2. Concern in the U.S. was initiated by the sharp fall in the U.S. private saving rate during the seventies. It was argued that these low saving rates would lead to reduced capital formation, which, in turn, would stifle growth, reduce labour's share of income, and reduce international competitiveness.[5] In addition, lower saving rates induced by tax distortions and public pension plans would reduce household welfare below that actually attainable.

5 Appendix 10A contains the results of a simulation of the effect on the Canadian economy of a higher domestic savings rate.

3. On the surface, it seems odd that concerns about deficient saving should also be expressed in Ontario. Measured saving rates in Canada are high by historical standards and in comparison with those in other developed economies (see Appendix 10C). Moreover, Ontario's saving rate is one of the highest among provincial rates. Nevertheless, as shown by several recent studies, conventional measures of saving seriously overstate private saving rates in an inflating economy. When adjusted for inflation distortions, true Canadian personal saving rates (personal saving as a fraction of disposable personal income) are on the order of 6-7 per cent rather than the unadjusted rates of 10-11 per cent. Moreover, government dissaving has been greater in Canada than in the U.S., although the magnitude of this dissaving is biased upwards by inflation. Finally, dissaving in the form of depleting resources is greater in Canada than in the U.S., although such dissaving is never counted as such.

4. Despite these adjustments, the Canadian saving rate has not shown a significant downward shift, as it has in the U.S.[6] Thus, any concern about the Canadian saving rate is based on the presumption that it should be higher than it is rather than on an observed decline. Because saving more requires consuming less, an assertion that saving should be encouraged needs to be supported with good reasons. Three possible reasons are considered below.

   - Higher saving yields high investment, which is important for growth,etc. This statement is highly questionable. First, it is necessary to demonstrate that investment is too low on a long-term basis. More important, in a small, open economy such as Ontario, the saving and investment decisions are quite distinct. If Ontario saving were insufficient to finance all profitable Ontario investments, financial resources from outside the province could (and almost certainly would) be obtained through borrowing, except in the special circumstances alluded to in Chapter 9. More personal saving by the residents of Ontario

6 Ronald G. Wirick seeks to explain the difference in 'Paradoxes in Recent Canadian-American Personal Savings Behaviour: Toward a 'Permanent' Resolution', mimeo presented at Canadian Economics Association Annual Conference, Ottawa, June 4-6, 1982.

would not materially alter the rate of capital formation in the province - a point explained in the previous chapter and elaborated upon in the next chapter.

- More personal saving is desirable (in periods of full employment) because, unless it were offset by reductions in other forms of domestic saving, it would make future generations more wealthy than they would otherwise be. This is either a non-economic argument, about which nothing useful can be said here, or it is an argument that the prevailing level of interest rates, which is largely internationally determined, does not reflect the time preferences of Ontario residents. Interest rates are 'too high' in some sense, with the result that future benefits are discounted too heavily. There is no evidence to support this contention, and it is difficult to see how the proposition could be proved or disproved.

- The taxation of capital income magnified by inflation distortions has severely reduced the after-tax real return on saving, thereby inducing households to save less than is socially optimal. This is the basic case made for reforms of the PIT with respect to saving. We have emphasized that this is less of a problem in Canada than in the U.S., because there are many tax provisions that move the Canadian PIT towards an expenditure-cum-labour income base. In many cases, therefore, the PIT does not reduce the after-tax real return to savers. In fact, on sheltered saving (RSPs, RRSPs, RHOSPs, and for households having less than $1,000 unsheltered investment income), the real interest rate in Canada is very high. Finally, while increasing the after-tax real return on saving might raise future consumption, it might also raise or lower personal saving, because with higher aftertax returns less need be saved to achieve the same level of future consumption.

5. In other words, the question boils down not to whether there is too little saving, but to whether the remaining disincentives to future consumption should be removed from the provincial share of the PIT. The answer to this question is unknown, but we make the following observations.

- While the income tax may discourage unsheltered saving (although on the basis of the evidence this is not proven) by reducing after-tax returns, it encourages saving by favouring early retirement (leisure) over working. It is uncertain whether there would be a welfare gain in going all the way to an expenditure tax with a provincial PIT.

- Even if there were welfare gains they would probably be small, since an Ontario PIT could only undo the tax on the provincial share (about 1/3) of unsheltered saving (say 1/2). This amounts to 1/6 of Ontario's personal saving and therefore 1/6 of the conceivably lost output because of the distorting effects, assuming all Ontario saving is 'double taxed'. Total unsheltered Ontario saving is probably between $1.2 and $6 billion. Therefore, the welfare gain (increased output resulting from removing the distortion) from reforming the provincial PIT could conceivably be between $200 million and $1 billion at most, not large amounts relative to provincial aggregate income.

- As mentioned in the Introduction in the discussion of 'grand' tax schemes, most serious proponents of the substitution of consumption expenditure taxes for comprehensive income taxes recognize the necessity in equity of simultaneously adopting progressive rates of tax for those with the highest expenditures and some form of tax on wealth transfers. However, neither of these supplementary measures seems likely to be acceptable to Canadian advocates of a move to an expenditure tax base. Moreover, such a shift would pose enormous transitional problems. Many people who were middle-aged and beyond at the time of the change would have had a part of their investment income (savings) taxed under the previous tax regime. To now adopt a system that taxed consumption rather than comprehensive income would be to hit them twice. The transitional provisions would have to run for a generation.

6. The interjurisdictional implications of an Ontario personal consumption tax, as a substitute for an Ontario PIT, have not been investigated. However, the interested reader should consult Chapter 11 on 'Corporate Investment' and Chapter 14 on 'Interprovincial Economic Bar-

riers and Tax Harmonization'. There can be little doubt that the problems and complexities would be substantial.

Appendix 10A
Comparison of personal savings rates under alternative hypothetical tax bases, tax rates, and other assumptions*

* The material contained in this appendix was prepared by William Mercer and Co., consulting actuaries, Toronto.

TABLE 10A.1
Summary of results - tax rate 20% - no bequest

	No tax	Tax scenario A	Tax scenario B	Tax scenario B1	Tax scenario C	Tax scenario C1
Tax rate	Ø	20%	20%	21.75%	20%	21.75%
Saving rate	11.41%	10.68%	11.41%	11.41%	9.13%	8.92%
Level income (net)	$12,839	$10,047	$10,272	$10,047	$10,272	$10,047
Fund at age 65	157,869	128,323	157,882	157,877	126,305	123,539
Bequest at death	N/A	N/A	N/A	N/A	N/A	N/A
P.V. net income	366,009	286,398	292,812	286,398	292,812	286,398
P.V. bequest (net)	N/A	N/A	N/A	N/A	N/A	N/A
P.V. taxes						
Individual						
On earnings	Ø	73,200	64,850	70,522	73,200	79,604
On invest. income	Ø	6,407	Ø	Ø	Ø	Ø
On pension	Ø	Ø	8,350	9,082	Ø	Ø
Beneficiary						
On bequest	N/A	N/A	N/A	N/A	N/A	N/A
Total taxes	Ø	79,607	73,200	79,602	73,200	79,604
P.V. total income						
[(6) + (7) + (12)]	366,009	366,005	366,012	366,002	366,012	366,002

TABLE 10A.2
Summary of results - tax rate 50% - no bequest

	No tax	Tax scenario A	Tax scenario B	Tax scenario B1	Tax scenario C	Tax scenario C1
Tax rate	ø	50%	50%	52.97%	50%	52.97%
Saving rate	11.41%	8.33%	11.41%	11.41%	5.70%	5.37%
Level income (net)	$12,839	$6,039	$6,420	$6,039	$6,420	$6,039
Fund at age 65	157,869	81,788	157,882	157,875	78,941	74,256
Bequest at death	N/A	N/A	N/A	N/A	N/A	N/A
P.V. net income	366,009	172,148	183,007	172,147	183,007	172,147
P.V. bequest (net)	N/A	N/A	N/A	N/A	N/A	N/A
P.V. taxes						
Individual						
On earnings	ø	183,000	162,125	171,740	183,000	193,852
On invest. income	ø	10,853	ø	ø	ø	ø
On pension	ø	ø	20,875	22,112	ø	ø
Beneficiary						
On bequest	N/A	N/A	N/A	N/A	N/A	N/A
Total taxes	ø	ø	20,875	22,112	ø	ø
P.V. total income [(6) + (7) + (12)]	366,009	366,001	366,007	365,999	366,007	365,999

TABLE 10A.3
Summary of results - tax rate 20% - 5 year bequest

	No tax	Tax scenario A	Tax scenario B	Tax scenario B1	Tax scenario C	Tax scenario C1
Tax rate	Ø	20%	20%	22.28%	20%	22.28%
Saving rate	13.83%	13.02%	13.83%	13.83%	11.06%	10.75%
Level income (net)	$12,489	$9,706	$9,991	$9,706	$9,991	$9,706
Fund at age 65	191,373	156,414	191,373	191,373	153,100	148,733
Bequest at death	58,912	47,129	58,912	58,912	47,129	45,784
P.V. net income	356,009	276,678	284,802	276,678	284,802	276,678
P.V. bequest (net)	9,999	7,771	8,000	7,771	8,000	7,771
P.V. taxes						
Individual						
On earnings	Ø	73,200	63,078	70,259	73,200	81,534
On invest. income	Ø	8,212	Ø	Ø	Ø	Ø
On pension	Ø	Ø	8,122	9,047	Ø	Ø
Beneficiary						
On bequest	Ø	122	2,000	2,228	Ø	Ø
Total taxes	Ø	81,534	73,200	81,534	73,200	81,534
P.V. total income [(6) + (7) + (12)]	366,008	365,983	366,002	365,983	366,002	365,983

TABLE 10A.4
Summary of results - tax rate 50% - 5 year bequest

	No tax	Tax scenario A	Tax scenario B	Tax scenario B1	Tax scenario C	Tax scenario C1
Tax rate	Ø	50%	50%	53.90%	50%	53.90%
Saving rate	13.83%	10.23%	13.83%	13.83%	6.91%	6.37%
Level income (net)	$12,489	$5,764	$6,244	$5,757	$6,244	$5,757
Fund at age 65	191,373	100,444	191,373	95,687	95,687	88,129
Bequest at death	58,912	27,981	58,912	58,912	29,456	27,156
P.V. net income	356,009	164,308	177,990	164,108	177,990	164,108
P.V. bequest (net)	9,999	4,410	5,000	4,609	5,000	4,609
P.V. taxes						
Individual						
On earnings	Ø	183,000	157,695	170,011	183,000	197,291
On invest. income	Ø	13,952	Ø	Ø	Ø	Ø
On pension	Ø	Ø	20,305	21,890	Ø	Ø
Beneficiary						
On bequest	Ø	339	5,000	5,390	Ø	Ø
Total taxes	Ø	197,291	183,000	197,291	183,000	197,291
P.V. total income [(6) + (7) + (12)]	366,008	366,009	365,990	366,008	365,990	366,008

Appendix 10B
The tax treatment of pensions as approximations of a consumption expenditure tax[1]

Perhaps the most important aspect of pensions from a tax policy point of view is that their present tax treatment makes them into devices for implicitly moving an income-based tax system towards an expenditure tax system. Some of the pros and cons of expenditure taxation were discussed earlier.

There is no a priori reason to prefer expenditure taxation over income taxation on efficiency grounds. In the case of proportional taxes, an expenditure tax leaves undistorted the margin between present and future consumption (i.e., the savings decisions), whereas the income tax imposes a tax on the relative price of future consumption. However, both distort the choice between work and leisure. Proportional expenditure taxation does so to a greater degree, because average tax rates must be higher. It is therefore not possible to deduce whether proportional expenditure taxation is preferable to a proportional income tax. It depends upon the relative degrees (elasticity) of substitution among present and future consumption and the non-taxed goods.

The above argument applies whenever tax rates are flat, even when this situation is modified by a fixed exemption level, making the tax system progressive with respect to average tax rates. However, once marginal tax rates are also progressive (as in the existing PIT), both expenditure and income taxation also distort the relative price of present and future consumption. Which one distorts the savings decision more depends upon the lifetime profiles of income and expenditure streams. In the case of income, one expects the income stream to be much higher during one's working life and lower in retirement, when only capital income accrues and

1 The material in this appendix is drawn from the Technical Paper by Robin Boadway and Neil Bruce, 'The Personal Income Tax: Implications for Savings, Investment, and Pensions'.

consumption is financed partly by reducing one's wealth. The expenditure stream is likely to be much smoother, assuming that expenditures include the imputed value of the use of one's own home and other consumer durables, and not simply cash disbursements.

If marginal tax rates are progressive (and if lifetime averaging devices do not exist), an expenditure tax including imputed consumption services would result in an increase in the relative price of future consumption, since marginal tax rates would be higher. Thus, there would be a substitution away from saving. Because income is lower in retirement, progressivity would work in favour of the income tax base rather than the consumption base. Even so, unless the marginal tax rates under expenditure taxation were extremely progressive, one would presume that the relative price distortion against saving due to income taxation would still be larger than that due to expenditure taxation, particularly if the expenditure tax were on a cash flow basis rather than on an imputed consumption basis.

Although the case for expenditure taxation on efficiency grounds is unclear, there may be other reasons why it would be sensible to treat the savings decision more favourably than other decisions. Saving may simply be more sensitive to relative prices than working. However, the evidence is not persuasive. It may be thought necessary to provide an incentive to saving to offset distortions elsewhere in the economy or distortions arising from the corporate tax or property taxes. In an open economy, however, distortions of the investment decision cannot be removed by influencing the savings decision. The two are quite separate when capital is free to flow into and out of the nation.

Some authors have suggested that saving for future generations provides a public benefit, since all members of the present generation benefit from the saving of earlier generations, and that decentralized private saving will lead to too little savings for future generations.

The use of pensions seemingly to turn the income tax system into an expenditure tax system really only applies to expenditures over the lifetime and not to bequests. Except for minor details, the tax treatment of pensions does not lead to the treatment of bequests on an expenditure tax basis, except for retirement consumption. Indeed, it only does the latter imperfectly as well. The effect of the PIT is to exempt income from tax contributed to a pension scheme (private or public), plus accumulated investment income on the fund itself, and to tax income when received in

retirement whether it is used for consumption purposes or not. Thus, it is not a true consumption expenditure tax but a deferral of income tax.

The exemption of investment income

There are two aspects of the tax treatment of pensions that prevent it from being analogous to expenditure taxation. First, pension income is taxed on receipt whether it is used for consumption or not. For example, if it is used for further saving for bequest or future consumption, there is a relative price distortion imposed. Thus, while the system removes the distortion on saving for retirement during one's working life, it does not remove the distortion on saving during retirement or saving for bequest. Because saving for bequest appears to be a relatively important motive, this blunts the usefulness of the preferential treatment of pensions as a device for eliminating the distortion on savings.

Next, the existing treatment of pensions is limited in its effect by the fact that upper limits exist on the deductibility of the voluntary component of pension contributions (RRPs and RRSPs). A significant proportion of the population are at the upper limit of their contributions and accumulate additional savings over and above pension-type savings. For these persons there is no relative price effect at the margin. Apart from certain averaging aspects, the tax savings on RRSP and RRP contributions are purely lump-sum transfers (gifts) and have wealth effects but not substitution effects on savings. The upper limits imposed upon RRSP/RPP contributions are effectively becoming tighter and tighter as time passes because the nominal limits do not change automatically, despite the fact that nominal incomes rise due both to inflation and to rising real per capita income. This would argue that the limits should be indexed.

Appendix 10C
Comparative data on total savings and personal savings, domestic and foreign

TABLE 10C.1
Sources of Canadian savings, 1960, 1970, and 1980

	1960	1970	1980
	(in millions of dollars or percentages)		
Canada (current $)	8,687	17,775	66,985
personal	870	2,964	20,165
business	6,290	12,992	46,544
government	376	2,735	-2,523
non-residents	1,151	-916	2,799
Per cent of total saving			
personal	10.0	16.7	30.1
business	72.4	73.1	69.5
government	4.3	15.4	-3.8
non-residents	13.3	-5.2	4.2
Per cent of GNP			
personal	2.3	3.5	7.0
business	16.4	15.2	16.1
government	1.0	3.2	-0.9
non-residents	3.0	-1.1	1.0
Personal savings by province (as per cent of total)			
Ontario	48.4 (year 1961)	53.7	47.8
Quebec	44.3 (year 1961)	27.5	25.9

SOURCE: Statistics Canada (National Income and Expenditure Accounts).

TABLE 10C.2
Comparative savings statistics for some O.E.C.D. countries [a]

	GDP	Surplus on current transactions	Government savings including consumption of fixed capital	Business savings including consumption of fixed capital	Personal savings including consumption of fixed capital	Personal savings as a % of GDP	Domestic savings as a % of GDP	Personal savings as a % of domestic savings
			(Billions local currency)					
Canada	152	-2.4	3.6	17.1	14.20	9.37	22.95	40.82
U.S.A.	14,603	-5.4	15.6	145.4	127.40	8.72	19.75	44.17
Japan	133,721	1,213.2	5,843.0	13,213.0	25,288.44	18.91	33.16	57.03
U.K.	95,082	-0.8	1.9	7.3	7.90	8.27	17.91	46.15
Germany	978	10.8	35.8	117.6	87.30	8.93	24.61	36.28
France	1,351	-7.0	44.5	103.8	175.30	12.97	23.96	54.16

a All numbers represent averages for the period 1970 to 1978.
SOURCE: National Accounts of O.E.C.D. Countries (1961-78) Vol. II, Paris 1980.

11
Corporate investment[1]

The fact that Canada-Ontario has a small, open economy greatly constrains what can be accomplished through the PIT system to stimulate investment. This constraint arises from two considerations. First, because the market interest rate (or spectrum of rates) in Canada-Ontario is determined in the international capital market, changes in saving, from whatever source and for whatever reason, affect the degree of reliance on foreign saving but do not affect the rate of investment except in special circumstances. Second, because the marginal buyer of Canadian equities, who in essence determines share prices, may well be a non-resident unaffected by Canadian-Ontario PIT provisions, it is moot whether the changes in those provisions that would increase the after-tax return to resident shareholders in Canadian corporations would have a material effect in lowering the user cost of capital and thereby stimulating corporate investment in Canada-Ontario.

This chapter is designed primarily to explain the latter proposition and to report on two experiments. The first involves an assessment of the potential efficacy of a move towards a complete integration of personal and corporate taxes for Canadian shareholders of Canadian corporations or, alternatively, Ontario shareholders of Ontario corporations under a separate Ontario PIT. The second experiment involves, for comparative purposes, an assessment of the efficacy of a system of investment tax

1 This chapter is largely based on two documents: the first is the Technical Paper 'The Personal Income Tax: Implications for Saving, Investment, and Pensions' by Robin Boadway and Neil Bruce. All references are to be found in this paper. In addition, John Todd has developed for this report a model, with the acronym TAX, that has been used to simulate the potential effects of PIT and other changes on net investor income and the user cost of capital. A detailed description of the model, and the results of the simulations, are provided as Appendix A to this chapter.

credits as part of the CIT either at the federal or Ontario levels.

To remove any sense of suspense, it can be reported at the outset that it has been found that investment tax credits are more efficacious per dollar of revenue forgone than PIT-CIT integration in stimulating investment; they are much simpler in terms of recordkeeping and administration; they pose many fewer problems with respect to the interjurisdictional flows of corporate source income.

For unincorporated businesses, the determination of taxable business income is part and parcel of the PIT system. Technically speaking, therefore, this report should consider the question arising concerning the determination of taxable business income. Nevertheless, to keep this report within manageable bounds, given the time constraints in effect, this subject is ignored.

There are, or are thought to be, special problems, termed market imperfections, that arise with respect to the financing of relatively small and/or new business ventures. A number of incentive measures have been adopted to deal with this set of problems. Some are within the CIT system, such as the lower rate of corporate tax for 'small' corporations. Others stand outside the tax system altogether, such as the Small Business Development Corporations Program in Ontario. This set of questions is dealt with in Chapter 13. In this chapter, therefore, the market imperfections related to small and/or new enterprises are largely ignored.

For the reasons set forth in the Introduction, a fully employed economy (i.e., 6-7 per cent unemployment rate - the so-called 'natural rate') with only a low rate of inflation is assumed throughout.

Financial markets equilibrate, on the one hand, the demand for the funds needed to finance the physical capital used in the production and distribution of goods and services and, on the other, the supply of funds made available through saving, including personal saving. The basic determinants of personal saving, and the potential effects of PIT on such saving, were discussed in Chapter 10. This chapter explores the potential effects of the PIT on the demand for funds for physical capital investment.

In order to analyse the effects of personal and corporate income tax changes on business investment, it is essential to have a clear conception of the determinants of such investment - in other words, a theory. Basically, the current economic theory of the investment by the firm hinges on the assumption that firms desire to acquire and hold capital goods provided that the stream of net benefits generated by these goods

compensates for all the associated economic costs. Investment is undertaken until at the margin the benefits just cover the costs. The benefits consist of the stream of after-tax revenues generated over all future periods during which the physical asset is held, suitably discounted. If the firm is competitive, this will be the after corporate tax stream of additional revenues (additional product x price of product) attributable to an additional unit of physical capital (i.e., the marginal value product of capital). The costs, on the other hand, consist of the imputed economic costs of holding the asset in each period. These encompass the cost of finance (debt, new equity, and retained earnings), the physical depreciation of the asset due to wear and tear or obsolescence, any capital losses incurred due to changes in the relative price of the asset, and the tax savings resulting from the provisions for rapid write-offs against income by virtue of holding the asset as well as any investment tax credits. The 'user cost of capital' is the term used to denote the aggregate of all of these various costs of holding the asset over a given period of time.

The following intuitive explanation may be of assistance in understanding the investment theory. Firms undertake a variety of real and financial transactions. The real transactions include the purchase of current and capital inputs and the sale of outputs. The financial transactions include the sale or purchase of debt (or equity in other firms), the payment of interest and dividends, and the issuing of new shares. In addition, firms pay income taxes, and may also pay other taxes such as royalties, property taxes, or payroll taxes. A convenient way to summarize the financial transactions of the firm is an identity derived from the fact that all cash inflows must equal cash outflows plus the increase in working capital. For the firm earning business income only, this identity, expressed in terms of the determinants of dividends, is:

dividends = total revenues - current costs (excluding depreciation) - purchase of capital goods + net debt issue - interest payments + net equity issue - taxes - net increase in working capital

This expression for dividends is useful because it presumes that the ultimate aim of the firm is to provide a stream of dividends to its existing shareholders. Most current economic analysis proceeds on the assumption that the firm plans its real and financial transactions so as to maximize the

present value of the stream of dividends to its existing shareholders. The discount rate used is the discount rate of the shareholders, which is their marginal after-tax return required on risk-free savings plus some risk premium specific to the firm under consideration. The appropriate discount rate, therefore, is the effective market rate of interest for any investment.

The magnitude of each of the items in the dividend identity depends upon the production technology of the firm, the tax structure, and the stream of prices and interest rates it faces. The production technology determines the output the firm can obtain given the inputs that it currently purchases and the capital it has accumulated. If all output is sold when produced, total revenue simply becomes the value of total output, and the production technology that determines the marginal physical product of capital, together with the market price of the product, determines total revenue.

The firm is assumed to be able to choose all input and output levels as well as inventory holdings. It is supposed that the firm behaves as if it knows the future stream of prices, interest rates, and taxes facing it and chooses its path of inputs and outputs so as to maximize the present value of its stream of dividends, as previously stated. The result of this maximization procedure is a set of rules that govern the firm's choice of inputs. Its choice of outputs and sales will immediately follow from them.

The demand for depreciable capital, the only input we will consider, is determined by the following factors:

- real output price
- real price of capital goods
- marginal physical product of capital (as defined earlier)
- the real cost of finance to the firm
- physical depreciation rate
- business income tax rate
- investment tax credit rate
- capital cost allowance rate
- expected inflation rate

The firm wishes to accumulate an amount of physical capital such that the marginal physical product of the last unit of capital, multiplied by the price of the product, just equals a complex equation which includes the

other factors just listed.[2]

This complex equation is known as the user cost of capital. The user cost of capital is made up of the 'cost of finance' plus the 'cost of depreciation'. Both terms are affected directly by the PIT system.

The effect is felt in two ways. First, if the economy is perfectly large and closed, changes in the tax system which affect the effective personal tax rate will alter the required pre-tax return on investment and, hence, will also affect the market rate of interest, as was explained in Chapter 9. Second, for a given market rate of interest, the rate of return that a firm is required to earn on a new investment in order to pay the user cost of capital will be affected by changes in the effective corporate income tax rate. This will affect the level of corporate investment.

The cost of finance to the firm represents the costs of financing the marginal investment expenditure. (In the present context the term 'investment expenditures' or 'investment' means current expenditures on new physical capital - machinery, equipment, and structures.) The cost of finance depends upon the proportions by which the firm finances its investment expenditures through debt, retained earnings, and new equity issues, and upon the costs of each of these sources of finance.[3] The mix of the three presumably reflects their relative prices, the dividend history of the enterprise, the riskiness of the industry and the particular firm (as perceived by marginal investors), and traditional rules of thumb followed by investors.

A few brief comments about each of these costs is in order.

Debt. Because interest is a deductible expense in determining taxable business income, the cost of debt is the market rate of interest after

2 See Boadway and Bruce. Appendix 6A reports some estimates of the effect of a decline in the user cost of capital on potential GNP.

3 The cost of finance for an investment is a weighted average of the costs of debt, retained earnings, and new equity. These components of the cost of finance are average costs. If the firm has minimized its cost of finance, then at the margin the costs of debt, retained earnings, and equity must be equal. As the proportion of debt increases, debtholder risk is increased, the supply of retained earnings is limited, and utilizing additional equity dilutes ownership. As a result, the cost from the perspective of existing shareholders of each source of finance increases with the amount used; hence, the optimal mix of sources of finance involves utilizing each until the marginal cost of each source of additional funds exactly equals the expected marginal return on investment opportunities available to the corporation.

corporate taxes. If the going interest rate is 5 per cent and the effective corporate income tax rate is 50 per cent, the cost per dollar borrowed is 0.05 x 0.50 (i.e., 1-.50) = 0.025.[4] As was explained earlier, in a large, closed economy the PIT system can affect the market interest rate through its effects on personal saving. In a large, closed economy, the market interest rate adjusts in the same manner as the investors' after-tax rate of return in response to a change in taxation: the relative proportions of the adjustment affecting the interest rate and the after-tax rate of return both depend upon the relevant elasticities. In a small, open economy, however, the interest rate is determined in the world capital markets and, therefore, is insensitive to the domestic tax system. In this case, the level of domestic investment changes in response to changes in the internationally determined interest rate, changes in the effective rate of corporate taxes, and changes in the marginal tax rate of the marginal equity buyer, but only when the latter is a resident. In short, the interest rate being given, changes in PIT or CIT bring about change in the after-tax rates of return. However, as is discussed immediately below, if the marginal buyer of Canadian corporate equities is non-resident, a factual question that is extremely difficult to determine, changes in the Canadian-Ontario PIT have no effect on the after-tax return of the purchaser who determines share prices (i.e., the cost of equity finance). As we have emphasized, the Canadian-Ontario economies are best characterized as small and open, with the consequence that the immediately foregoing statement concerning the effects of tax changes best sets forth the prevailing situation.

Equity. The cost of equity finance is more complex, since dividends and capital gains, which together make up the returns to equity owners, are treated differently by the tax system. Suppose for the moment that dividends and capital gains bear the same effective tax rate, 45 per cent. Suppose further that the after-tax rate of return on equity required by equity owners in the market is 10 per cent. (Recall that rates of return are in real terms. The rate may include a risk premium specific to the firm, and it will presumably bear a close relationship to the market interest rate, since equity owners always have the option of holding debt instead.)

4 The cost of debt measures the effect of the interest payment on after-tax profit. Of course, the firm must earn 5 per cent on each borrowed dollar in order to be equally well off (i.e., required return on a debt-financed investment is 5 per cent).

The firm will have to provide a gross return of 18.18 per cent to its shareholders - i.e., 0.10(1/[1-0.45]). This represents the cost of equity finance. Note that dividends and retained earnings (a potential source of capital gains) are not tax deductible to the firm, unlike interest; hence new investment, in order to be attractive, must earn a high enough return to pay both CIT and the cost of equity.

In a large, closed economy, if the personal tax rate on investment income rises, the cost of equity finance to the firm will rise to compensate investors for the increased tax burden. Similarly, in such economies, if the personal tax rate falls, so does the cost of equity finance to the firm. As in the debt case, however, if the economy is small and open, as is the Canada-Ontario situation, its interest rate cannot differ appreciably and persistently from the international interest rate. Consequently, if the personal tax rate increases, the after-tax return for domestic investors declines, because the market rate of interest does not change. As a result, investment will be less attractive to residents, and resident shareholders will gradually sell a portion of their shares to non-residents in order to reduce the total value of such investments in their portfolios. If the change in the personal tax system causes the relative tax burden on different investments to change, there may also be some reallocation of investment holdings by residents from those investments bearing a relative increase in the tax burden to those offering a relative decrease in the tax burden.

The changes in the cost of equity capital depend upon the extent to which and the speed with which the tax changes are capitalized in share prices. If the marginal buyers are non-resident, capitalization will not occur, although a reallocation of financial assets among resident investors may result, depending on their Canadian tax status (e.g., differences in marginal rates, taxable individuals or corporations versus non-taxed pensions, etc.). However, where the marginal buyers are residents, one might expect that domestic tax changes will be quickly and fully capitalized. This will reduce the incentive to reallocate assets among different portfolios but not entirely eliminate it.

When capital gains are taxed to individual shareholders on a different basis than dividends, the foregoing analysis must be modified. As is discussed in detail later in this chapter and in the following chapter, it is usually assumed that retained earnings result in future earning streams for the corporation that are capitalized in the price of the shares. With the

recent tax changes (November 1981 budget), these gains can be taxed slightly more heavily than dividend income from taxable Canadian corporations whose dividends are eligible for the dividend tax credit.[5] If the marginal investor is a resident, the cost of equity must therefore be calculated taking the payout ratio into account. Payout ratios are conceivably a material consideration to non-resident marginal buyers, since the foreign tax credit only applies to dividends received from Canadian corporations and not to the taxable capital gains arising from retained earnings.

Retained Earnings. The cost of retained earnings is similar to that of new equity, but is further complicated by the fact that for every dollar the firm retains to invest, the stockholders forgo one pre-tax dollar of cash dividend that could be reinvested. If the resident marginal investors' marginal personal tax rate is 40 per cent (effective rate is 10 per cent when the dividend tax credit is considered), the opportunity forgone is an investment of only 90 cents (i.e., net after-tax income). This has the

5 If a corporation does not qualify for the small business rate, retained earnings are taxed at approximately 50 per cent at the corporate level and capital gains (assumed to be equal to after-tax retained earnings) are taxed at half the personal rate of the investor at the personal level. For an investor with a marginal tax rate of 40 per cent, the total tax burden on the retained share of pre-tax earnings is 60 per cent. Dividends, on the other hand, are taxed at a 50 per cent rate at the corporate level, but provide the investor with a combined federal and provincial tax credit of 50 per cent on dividends paid, thereby reducing the effective tax rate on pre-tax corporate earnings to 25 per cent. On top of this, personal tax is paid at 150 per cent of the normal rate on dividends received. The total burden on pre-tax corporate earnings, if the investor's marginal tax rate is 40 per cent, is therefore 55 per cent. Of course, if dividends are not eligible, the effective tax rate is much higher (i.e., 70 per cent for this case). Similarly, for a taxpayer with a marginal tax rate of 50 per cent, the tax burden on both dividends and retained earnings is 62.5 per cent. Because the total tax burden is less for capital gains than for dividends only for tax taxpayers with a marginal tax rate over 50 per cent, which is the maximum personal rate set out in the November 1981 budget, taxpayers will prefer capital gains to dividends only if they value the deferred opportunities of capital gains, or if the Canadian economy is sufficiently large and closed for the relative tax burdens at different payout ratios to affect stock prices (i.e., capitalize the relative benefit to low income investors of high payout stocks into their price). Before the recent changes, taxpayers with a marginal rate over 54 per cent (taxable income over $77,337 in 1981) were taxed at a lower rate on retained earnings than on dividends.

effect of lowering the cost of retained earnings below that of new equity.

One other complication can arise in determining the cost of finance: firms may not be financed directly by individuals, as was assumed above, but through intermediaries or institutions. If the firm is financed by another resident firm acting in an intermediary capacity, the cost of finance to the investing firm will be increased by taxes on the intermediary unless there is a free flow-through of capital income through the latter. In practice, the flow-through is imperfect for two reasons. First, although dividends are untaxed in the hands of firms, capital gains are taxable (at half rates); this can increase the cost of equity finance to the firm. Second, interest is treated differently than dividends; this too can influence the cost of finance. If the acquisition of debt by a firm is itself financed by debt, the taxability of interest received and the deductibility of interest paid more or less cancel out, so there is a free flow-through of capital income apart from the real costs of intermediation. On the other hand, if equity held by a firm is financed by debt (or vice versa), an asymmetry arises. In this case, dividends are received tax-free but the debt is interest deductible, so the cost of finance is reduced.

Another possible source of finance for firms is pension funds and the like, which are not only themselves tax free but also have access to personal income that is tax free. The greater the proportion of savings flowing through these tax-exempt vehicles, the less will be the influence of the PIT on investment.

THE TREATMENT OF CORPORATE SOURCE INCOME UNDER THE PIT SYSTEM

The appropriate treatment of corporate source income at the personal level depends upon one's view of the role of the corporate income tax. If one views the CIT as a method of withholding corporate source income, some form of integration is required at the personal level. The opposite is true if the CIT is designed to capture a share of pure profits or economic 'rents'.[6] Therefore, in considering what ought to be the appropriate

6 Taxing pure economic profits or rents will, of course, reduce the wealth of those who hold the property rights to them. It will not affect the allocation of resources, however. Economic rent can be roughly defined as that portion of a return to an asset that exceeds

treatment of capital income under the PIT, one cannot avoid looking at the design of the CIT. This is particularly relevant for Ontario, because the province administers its own CIT system. Let us consider the two distinct functions that the CIT can perform in turn.

Much of the economic analysis of the CIT has focussed on its potential as an ideal neutral tax. It has been pointed out that the tax base for the CIT can, in principle, be established so as to include only the true economic profits or rents of a corporation. This is the case if the tax base is the imputed revenues earned less the full imputed costs incurred by the firm. If this were the tax base, the CIT would be a perfectly efficient tax, falling only on the pure rents generated by such things as natural resources, monopoly profits, immobile factors of production, and so on. There would be no need to integrate the PIT with the CIT because to give credit to individuals for corporate taxes paid on their behalf would be to undo the effects of the ideal tax, at least in the opinion of Boadway and Bruce.[7] However, it seems likely that policymakers have viewed and will continue to view the CIT to a large extent as a withholding device. This was certainly the view of the Carter Commission.

The use of a cumbersome tool such as the CIT as a withholding device can be justified on two grounds. First, it can withhold at source capital income flowing to non-residents that would otherwise escape taxation in the economy of origin. If the economy is small and open (the Canada-Ontario situation) and capital flows fully, and if the non-residents do not receive a credit for the domestic withholding tax in their own country, then the withholding of income against non-resident individuals will be ineffective. The rate of return they receive from investment in domestic corporations is predetermined by the alternative after-tax rates of return available in other countries, and the withholding tax will be borne directly by the domestic economy. That is to say, the small domestic economy will have to offer a net of withholding tax rate of return equal to that available in foreign capital markets. This is not the case if the non-resident owner is able to claim a tax credit in his foreign jurisdiction (as is usually the case for U.S. shareholders of Canadian equities). The

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the return necessary to keep it in a particular use (e.g., the income of a big-name movie star usually exceeds that necessary to deter him from leaving the industry for his next best alternative occupation).

7 This type of corporate taxation is discussed at considerable length in the Boadway-Bruce Technical Paper and the references therein cited.

withholding tax then represents a transfer from the foreign treasury to the domestic treasury. Second, a CIT withholds against the equity owners of the corporation, who could otherwise escape the full effect of the PIT by retaining income in the corporation.

It should also be pointed out that the case for using the CIT as a withholding device presumes that one wishes to tax investment income from this source. If the personal tax system exempted such income, withholding would be necessary only against non-residents. However, this would almost certainly lead to retaliation by the foreign tax authorities.

An ideal withholding system would be one that taxed all capital income generated by the corporation (interest, dividends, and capital gains). This would be accomplished by a tax base that consisted of the value added by the corporation less depreciation and less wages and salaries. Then, full credit would have to be given for all capital income accruing to residents by a system of gross-up and tax credit. The present system diverges from the ideal in several ways: in particular, capital cost allowances and economic depreciation diverge and interest deductions are allowed. Thus, the interest component of value added paid to foreigners escapes taxation.[8]

The PIT corporate tax credit system is also inadequate. As will be explained in detail later, credits are allowed on dividends but only imperfectly. The combined federal and provincial dividend credit rate allowed approximately 54 per cent of full credit on taxes paid by corporations until the changes introduced in the federal budget of November 1981 and confirmed in Mr. McEachen's Economic Statement of June 28, 1982. The new changes adjust the credit to exactly half of the tax paid by corporations that do not qualify for the small business tax rate. However, greater credit is given for corporations taxed at the small business rate (full credit after the corporate distributions tax introduced in the November 1981 budget and effective in 1983) and for those given preferential CIT treatment, such as manufacturers and processors, and resource industries. Of course, the benefit of this tax credit is offset by the fact that the effective tax rate on dividends paid is 150 per cent of the investors' normal rate. A further imperfection arises because the dividend tax credit is not available on capital income flowing through pension funds, since this

8 This is especially important in times of inflation because nominal rather than real interest deductions are allowed.

income is not taxable. Taxpayers with a marginal tax rate below 33 per cent would actually lose more by losing the tax credit than they would gain from the dividend income being tax free.

Thus, the present CIT system is fulfilling neither the pure profits tax role nor the withholding role efficiently. It is in some sense designed as a mixture of the two functions, as is suggested by the fact that the PIT is only partially integrated with the CIT.

Our interest here is not in redesigning the CIT, although it might well be argued that an appropriately integrated system could not proceed unless both the CIT and the PIT were reformed. The issue is rather whether unilateral reform of the PIT, given the existing CIT, is desirable. The aspect of the PIT that is relevant from this perspective is the adequacy of provisions for crediting of corporate taxes, given that the corporate tax is viewed as primarily a withholding tax. To that subject we now turn.

FULL INTEGRATION OF THE PIT AND CIT FOR RESIDENT SHAREHOLDERS

Together, the federal and provincial governments presently impose a tax on Canadian corporate income at a combined rate of about 50 per cent (36 and 14 in Ontario). This does not apply to small businesses and certain manufacturing and processing businesses. In the absence of special provisions, after-tax corporate income distributed to shareholders would become personal income, to be taxed again at the marginal rate of the shareholder. Likewise, one half of realized gains (less losses) on the disposition of corporate shares would be taxed at the marginal rate of the seller, even though these gains would in part reflect the retained earnings of the corporation, which would have already been subject to the corporate tax.

In order to reduce this form of double taxation on the basis of fairness, or in order to reduce the cost of equity capital to corporations as a means of encouraging investment, or for both reasons, the federal government introduced a dividend tax credit (DTC) system in 1948, to be effective in the following year. This original system was substantially modified in 1972. The current DTC provisions:

- apply to dividends received from a taxable Canadian corporation;

- require the shareholder-taxpayer to include in income 150 per cent of the dividend (i.e., the dividend is 'grossed-up');
- allow the taxpayer to deduct from PIT otherwise payable a credit on this 'grossed-up' amount equal to approximately 33-1/3 per cent when both the federal and implicit provincial tax credits are considered.[9]

The example given in Table 11.1 illustrates the calculation.

The last two lines say it all: for the shareholder with a marginal rate of 30 per cent, the current system, relative to the no credit system, raises the after-tax return on corporate source income by 50 per cent from $70 to $105; the full credit system would raise it from $70 to $140, an increase of 100 per cent relative to the no credit system. The full credit system raises the after-tax return by 33 per cent relative to the current system. There would be a corresponding reduction in PIT revenues from $130 with no credit to $95 with the current credit system to $60 with a full credit system. Other things being equal (and they certainly are not!), the introduction of the full credit system would, by increasing the after-tax return by 50 per cent (in this simple example), increase the return on the shareholder's equity by 50 per cent.

In a hypothetical perfectly large and completely closed economy in which all shareholders were resident, this increase in the return on shareholder's equity would be fully capitalized in higher share prices; it being assumed that the change would alter the allocation of the flow of savings but not the rate of flow (i.e., interest rate unaffected), and that all capital market participants were fully informed and had the same expectations. Through this capitalization in higher share prices one of the components of the cost of finance would decline. The user cost of capital would therefore also decline and corporate capital formation would increase, the magnitude of the increase depending primarily upon the elasticity of investment to changes in the user cost of capital. The precise assumptions needed to derive the changes in the user cost of capital are set forth in Appendix 11A, which reports the results of a simulation of the effects of full integration using a model, designated TAX (Tax Alternative X Com-

9 The federal rate was reduced from 25 per cent in the federal budget of November 1981 and confirmed in the Economic Statement of June 28, 1982. The new rate was set so that the combined provincial and federal credits would average 50 per cent of cash dividends received; i.e., combined dividend tax credit is now 33-1/3 per cent of the grossed-up value, compared with 37 per cent previously.

TABLE 11.1
Comparison of existing dividend credit system with no-credit and full-credit systems (assuming $200 of before-tax corporate income, CIT rate 50%, PIT rate 30%)

	No credit	Current dividend tax credit	Full credit
Corporate income	200	200	200
tax 50%	(100)	(100)	(100)
after tax	100	100	100
personal income			
dividend	100	100	100
grossed-up[a]	N/A	150	200
tax at shareholders' marginal rate (0.30)	30	45	60
dividend tax credit	N/A	50[b]	100
shareholders' after-tax corporate source income	70	105	140
Total CIT and PIT revenues	130	95	60

a Dividend x 1.5
b Grossed-up dividend x 0.333 (new combined federal and provincial rate)

parison Package), developed by John Todd.

In the simulations, the effects under two polar assumptions are determined. The user cost of capital effects result from integration in a large, closed economy, while the net investor income effects result from integration in a small, open economy. The following assumptions are inherent in the model.

1. The marginal tax rate of the marginal investor is the same under both tax regimes.
2. The entire reduction in the tax burden resulting from the change in the tax system accrues to investors (i.e., not to employees or consumers through wage or price adjustments).
3. The rate of return on corporate investment does not change when the tax regime changes.
4. The required after-tax return of investors, proportions of debt, equity and retained earnings in new investment, the duration of investment, and the payout ratio are unaffected by the change in the tax system.

5. Debt and equity investors have the same marginal tax rate.
6. Personal tax rates are not increased.

His principal findings are summarized in Tables 11.2 through 11.5.

What is immediately obvious from these simulation results is that the magnitude of the reduction in the user cost of capital hinges crucially on the marginal tax rate of the resident marginal share buyer: the higher the marginal rate of the marginal share buyer, the buyer who determines the price of the shares, the smaller will be the reduction in the user cost of capital and the less the stimulation to corporate investment.

One might assume that taxpayers with low marginal rates would increase their holdings until their collective net worth and portfolio balance considerations placed constraints on their purchases. This would apply as well to the group of investors with slightly higher marginal rates, and so on up the ladder of marginal rates. But with no detailed information at hand with respect to this hypothetical economy (perhaps best approximated by the U.S.), the tax-wealth-portfolio characteristics of the hypothetical marginal share buyer are impossible to ascertain.

When we move to the realities of the Canadian-Ontario economies, which are small and open, the foregoing problems are compounded by the fact that the marginal share buyer might well be a non-resident who would not benefit from the PIT-CIT integration for Canadian-Ontario corporations, which would be available only to residents. Given the presence of non-resident marginal buyers, residents would still obtain the increases in net corporate source income shown in Table 11.2; but because the improvements in after-tax income would not be capitalized in higher share prices, the reduction in the user cost of capital would not occur. The consequence would simply be a windfall tax saving.[10]

10 All of the estimates provided in this chapter and its appendices assume that any increases in after-tax corporate income resulting from integration would not be shifted through higher input prices or lower output prices. Nor has it been taken into account that if the user cost of corporate capital were to decline (a most uncertain proposition for all the reasons previously given) and the corporate capital stock were to grow more rapidly, the after-tax rate of return to corporate fixed capital would eventually be driven down, if for no other reason than that the price of such capital would have to fall relative to the price of labour, since the latter would become relatively scarce. In short, under the most favourable assumptions, the PIT-CIT integration would involve a once-and-for-all increase in the level of output. Thereafter the rate of growth would stabilize. The logic behind this statement is given in the Introduction.

TABLE 11.2
Net investor income - current tax system versus fully integrated tax system

Marginal tax rate of equity investors	Current system	Fully integrated	Per cent difference
30%	49.26	68.79	39.65
35%	46.76	64.69	38.33
40%	44.31	60.65	36.88
45%	41.92	56.69	35.23
50%	39.60	52.80	33.33

TABLE 11.3
User cost of capital - current tax system versus fully integrated tax system[a]

Marginal tax rate of equity investors	Current system	Fully integrated	Per cent difference
30%	20.59	17.51	-14.98
35%	20.70	18.01	-13.00
40%	20.84	18.60	-10.76
45%	21.02	19.29	-8.21
50%	21.25	20.13	-5.27

a Assumes marginal investor is a resident.

In point of fact, capital markets are not perfect. No doubt there are many small and medium-sized Canadian-Ontario corporations, particularly those not in the resource or high technology industries, that do not come to the attention of foreign portfolio investors. In such cases, full integration would result in increases in after-tax corporate source income that would be at least partially capitalized in higher share prices, with the resulting capital investment stimulating reductions in the user cost of capital. But even given that the marginal share buyers would be resident, the question still remains: what marginal tax rate/wealth/portfolio characteristics would these marginal buyers possess?

The tables in Appendix 11B provide information that can be used to estimate the increases in the after-tax returns from Canadian corporate source income of residents with and without integration. Calculations are

TABLE 11.4
Breakdown of user cost of capital effects

Marginal tax rate of equity investors	Cost of finance (%)			Cost of depreciation[a] (%)			User cost of capital (%)		
	Current	Integrated	Diff.(%)	Current	Integrated	Diff.(%)	Current	Integrated	Diff.(%)
30%	11.54	7.91	-31.44	3.20	7.09	121.24	20.59	17.51	-14.98
40%	11.79	9.23	-21.71	3.20	5.47	70.73	20.84	18.60	-10.76
45%	11.97	10.07	-15.86	3.20	4.44	38.58	21.02	19.29	-8.21
50%	12.20	11.08	-9.18	3.20	3.20	0.0	21.25	20.13	-5.27

a Cost of depreciation includes disposition cost. In other words, full life-cycle depreciation costs are considered.

TABLE 11.5
Breakdown of cost of finance effects

Marginal tax rate of equity investors	Cost of debt (%)	Cost of equity (%)			Cost of retained earnings (%)			Cost of finance (%)		
		Current	Integrated	Diff.(%)	Current	Integrated	Diff.(%)	Current	Integrated	Diff.(%)
30%	2.86	17.03	11.43	-32.90	17.88	11.43	-36.09	11.54	7.91	-31.44
35%	3.08	17.90	12.31	-31.25	17.45	12.31	-29.49	11.65	8.52	-26.86
40%	3.33	18.89	13.33	-29.41	17.00	13.33	-21.57	11.79	9.23	-21.71
45%	3.64	20.02	14.55	-27.35	16.52	14.55	-11.93	11.97	10.07	-15.86
50%	4.00	21.33	16.00	-25.00	16.00	16.00	0.0	12.20	11.08	-9.18

provided for shareholders with marginal rates of 30 per cent and 50 per cent, a wide range of corporate payout ratios are assumed, and the calculations are given for situations where the capitalized share gains are realized immediately or postponed for ten years. The findings are summarized in Table 11.6.

Once again it becomes painfully obvious that even when one assumes that the changes in the after-tax rate of return to resident shareholders resulting from PIT-CIT integration would be fully capitalized (i.e., the marginal share buyer is a resident), the unanswerable question 'what is the marginal rate of the marginal buyer?' is extremely important, as is the payout ratio of the resident corporation - a ratio that could and almost certainly would change as a result of integration. It inexorably follows that with the information at hand, and probably even with a great deal of additional information, the increase in share prices (a phenomenon, to repeat, that will occur only when the marginal buyer is resident) and the resulting decline in the user cost of capital must remain highly uncertain.

It is important to recognize that if as a result of integration the improvements in the after-tax return on Canadian-Ontario corporate source income were not capitalized, for the reasons discussed above, the after-tax corporate source income of residents with low marginal rates holding shares in resident corporations with low payout ratios would reap the greatest benefit from integration. This increase in after-tax income would no doubt have indirect economic effects - the shareholders' work-leisure, consumption-savings decisions might well alter as a result of the increase in their after-tax income. Against this one would have to take into account the probably offsetting effects of the additional taxes (of an indeterminant nature) that would have to be raised to finance full PIT-CIT integration if revenues were to be maintained. The point is, however, that without capitalization there would be no direct effect of PIT-CIT integration on the user cost of capital and therefore no direct stimulus to corporate fixed capital formation.

Moreover, Appendix 11C provides a brief discussion of a number of serious technical problems that full integration poses. These arise when the following kinds of circumstances prevail:

- corporate tax concessions
- intercorporate dividends
- different classes of stocks
- interjurisdictional flows of corporate source income

TABLE 11.6
Differences in percentage changes in after-tax returns through adoption of full credit system (integration) under certain deferral of gains realization assumptions

Shareholder's marginal tax rate	Payout ratios			
30 %	80:20	60:40	40:60	20:80
without deferral	39	44	51	57
with deferral	32	30	28	27
50 %				
without deferral	33	33	33	33
with deferral	19	8	(1)	(10)

The last of these items, the tax treatment of interjurisdictional corporate source income flows, is particularly difficult, both conceptually and strategically. This is attested to by the brief discussion of the issues provided in Appendix 11D.

One might well wonder, given the many serious technical difficulties that full PIT-CIT integration would inevitably generate, whether or not full PIT-CIT integration would be worth the candle even for a large, substantially closed economy. For a small, open economy such as that of Canada-Ontario, it is obvious that full PIT-CIT integration has little, if anything to recommend it. As the next section discusses, for Canada-Ontario an investment tax credit system or accelerated CCA, both of which are in place to a degree, would be more effective, more certain, and pose few technical problems. Both measures could be thought of primarily as CIT provisions (except for unincorporated enterprises), and could be introduced under the existing separate Ontario CIT.

INVESTMENT TAX CREDITS AS AN ALTERNATIVE MEANS FOR STIMULATING INVESTMENT

Up to this point in the chapter, attention has been directed at the efficacy of the full integration of PIT and CIT for resident shareholders of resident

corporations as a means to increase corporate fixed capital investment. Because of the high probability that the marginal investors in many if not most large resident corporations would be non-resident, there is also a high probability that the reduction in tax on resident corporate source income would not be capitalized in higher share prices. This means that a reduction in the cost of finance, and hence the user cost of capital, would not occur. Consequently, resident investors in resident corporations would obtain a windfall tax reduction with no capital investment stimulus. Moreover, there would be extremely costly administrative and compliance problems, as outlined in Appendix 11C. This raises an obvious, although not simply answered, question: are there more cost effective means whereby fixed capital investment by resident corporations could be increased by reducing the user cost of capital?

There are at least three alternative means that might be adopted to increase corporate investment: reductions in corporate tax rates, further acceleration of capital cost allowances, and further increases in investment tax credits (ITCs) against corporate tax otherwise payable. Although the TAX model is capable of simulating all three kinds of incentives, in view of time constraints the most straightforward incentive - a system of investment tax credits - was selected for comparison with PIT-CIT integration.[11]

Two issues were addressed. The first was: what would be the likely relative effects on after-tax investor income and on the user cost of capital, under the existing system and also under a fully integrated system, for resident shareholders with marginal tax rates of 30 and 50 per cent with corporate investment tax credits equal to 0, 3, 7, and 15 per cent of current capital expenditures? The same TAX model and the same basic assumptions were used to obtain the estimates reported below as were deployed to obtain the results reported earlier in the chapter concerning the difference between net investor income and the user cost of capital with and without integration. Here too the results are derived from the Technical Paper reproduced as Appendix 11A. The results of the simulations are to be found in Tables 11.7 and 11.8.

The key findings are as follows:

a. For every 1 per cent of ITC introduced, the net investor income

11 Because corporate tax rate reductions apply to old and new investment, the revenue cost effectiveness of enhanced ITCs is necessarily greater than for accelerated CCAs, but the differences are probably not large, and depend on many circumstances.

TABLE 11.7
Net investor income - effect of investment tax credit[a]

Marginal tax rate of equity investors	Investment tax credit rate	Current system	Fully integrated
30%	0%	0	0
	3%	2.36	2.58
	7%	6.43	7.00
	15%	14.55	15.83
50%	0%	0	0
	3%	3.16	3.14
	7%	7.35	7.35
	15%	15.73	15.73

a Values show effect of investment tax credit relative to no tax credit with the same tax system. Net investor income compares income with and without tax credit assuming rate of return on investment (= user cost of capital when ITC = zero) is held constant.

TABLE 11.8
User cost of capital - effect of investment tax credit[a]

Marginal tax rate of equity investors	Investment tax credit rate	Current system	Fully integrated
30%	0%	0	0
	3%	-3.06	- 3.03
	7%	-7.15	- 7.08
	15%	-15.30	-15.19
50%	0%	0	0
	3%	-3.06	-3.08
	7%	-7.15	-7.15
	15%	-15.30	-15.30

a See note to previous table.

under the current tax system is increased by 1 per cent for identical investments, assuming the after-tax rate of return (which equals the user cost of capital) is held constant.

b. For every 1 per cent of ITC introduced, the user cost of capital under the current system declines by approximately 1.5 per

cent. This result is almost entirely independent of the residence status of the marginal investor.

c. These effects are virtually unaltered by alternative PIT structures: the changes in both the net investor income and the user cost of capital are virtually identical for the current system and the fully integrated system.

d. The effects of the ITC on the user cost of capital are independent of the marginal investor's tax rate, but the effect on net investor income is 25 per cent lower for a 30 per cent marginal tax rate investor than for a 50 per cent marginal tax rate investor.

e. The estimated net income and user cost of capital effects are proportional to the magnitudes of the increases in the ITC.

The second issue addressed was the relative effectiveness of a system of investment tax credits compared with a full integration of PIT and CIT for resident shareholders. The results are as follows:

1. An ITC of 5.2 per cent[12] applicable to all capital expenditures would decrease the user cost of capital as much as would full integration (5.27 per cent), assuming the marginal tax rate of the marginal (resident) investor were 50 per cent, other things being held constant.

2. An ITC of about 31 per cent[13] across the board would be required to have the same effect on net investor income as the introduction of full integration, other things being held constant.

12 This result is obtained by the following calculation (it is assumed that the marginal investor is a resident): from Table 11.8, for an investor with a PIT rate of 50 per cent, we know that a 3 per cent ITC reduces the user cost of capital by 3.06 per cent with the existing system. Because this relationship is approximately constant, a 1 per cent ITC reduces the user cost of capital by 3.06/3 = 1.02 per cent. From Table 11.3, it can be seen that with a 50 per cent marginal rate, full integration reduces the user cost of capital by 5.27 per cent. Therefore, an ITC of 5.27/1.02 = 5.17 per cent is estimated to have the same effect on the user cost of capital as full integration.

13 The logic is the same as in footnote 12: from Table 11.7, for an

3. An ITC of 15 per cent would reduce the user cost of capital for investors with a marginal rate of 50 per cent by 15.3 per cent under the existing system, other things held constant. Full integration without an ITC would reduce it by only 5.27 per cent.

4. Neither the ITC nor integration have any marked effect on the degree of progressivity (or lack of it!) of the treatment of corporate source income.

Several important points should be noted concerning these results from the simulation experiments. The reductions in the user cost of capital flowing from the adoption of ITCs assume the marginal investor is a resident. However, the PIT provisions per se have little effect on the results, as can be seen from Table 11.8, which compares the changes in the user cost of capital for both the current and integrated systems. ITCs reduce, in effect, the required return on investments, and the benefits would accrue to residents and non-residents alike if, as is usually the case in the U.S., the foreign shareholder were given full credit for the Canadian withholding tax (a tax that would raise more revenue because dividends - the tax base for the withholding tax - would be increased, other things equal). In other words, the increase in after-tax corporate income resulting from ITCs would be capitalized to roughly the same degree whether or not the marginal investor were resident, assuming that the required after-tax rate of return to the marginal investor were unchanged and the same in both countries.

The favourable effects on investment in fixed capital of full integration are dependent on (among other things) the residence of the marginal investor - a most uncertain matter, as has been emphasized. Moreover, such a system would have high transactions costs, as has also been emphasized. It has been found that ITCs can achieve the same reductions in the user cost of capital as integration; the remaining question is their relative cost in terms of revenue forgone.

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investor with a marginal rate of 50 per cent, a 3 per cent ITC increases net investor income by 3.16 per cent. A 1 per cent ITC increases it by 3.16/3 = 1.05. From Table 11.2, with a 50 per cent marginal rate, integration increases net investor income by 33.33 per cent. Therefore, an ITC of 33.33/1.05 = 31.74 per cent is estimated to have the same effect on net investor income as full integration.

REVENUE COST

It is estimated that for 1979, the most recent year for which detailed corporate and personal taxation statistics are available, full integration at both the federal and provincial (all provinces) would have reduced revenues by $1.1 billion.[14] This estimate is based on the assumption that integration, does not, in effect, 'take back' at the shareholder level the money concessions and incentive provided at the corporate level. Assuming all marginal investors were resident and ignoring any and all transactions costs related to integration, it is estimated that integration would have reduced the user cost of capital by 5.27 per cent as per text.

It has been estimated by the method, described in an earlier footnote, using the TAX model that a 5 per cent ITC that applied to all corporate fixed capital investments would reduce the user cost of capital by the same percentage as would full integration - namely by 5.27 per cent for the marginal share buyer subject to a 50 per cent marginal rate. (Recall that the residence status of the marginal investor is of no great significance with respect to ITCs.) In 1979, ITCs cost the federal treasury $611 million CIT plus $113 million PIT for a total of $725 million (provincial credits not significant). Assuming an average federal ITC on eligible fixed capital acquisitions of 7 per cent, this implies that these capital acquisitions in 1979 had an estimated value of about $8.7 billion. An ITC of 5 per cent on this amount would therefore have reduced federal revenues by only 5/7 x $611 million or $436 million (assuming all acquired assets are 'qualified property'). The cost of reducing the user cost of capital in 1979 by 5.27 per cent through ITCs of 5 per cent is therefore estimated to be 5/7 x $725 million equals $518 million or say $500 million if all corporate fixed capital acquisitions are eligible and not only 'qualified property'.[15] This can be compared with an estimated net revenue cost for full integration of $1.1 billion. Bear in mind too that the latter cost estimate for full integration (leading to a reduction in the user cost of capital of 5.27) is based on the assumption that all marginal corporate investors are residents, a most unlikely state of affairs. There is a sub-

14 See Appendix 11A. It is assumed that the benefits of corporate tax incentives are allowed to flow through to shareholders so that full credit is given for the corporate taxes that would have been paid as corporate profits at the going tax rate (roughly 50 per cent whether or not that was the effective rate).

15 There are few exclusions.

stantial probability, as has been repeatedly emphasized, that full integration would not achieve this result in a small, open economy.

In short, even if one gives every conceivable doubt to the efficacy of full PIT-CIT integration and also assumes that ITC costs are double the estimate, it is estimated that the revenue cost to obtain the same reduction in the user cost of capital would be greater than the cost of the requisite increase in ITCs.

The current federal CIT system has provided since 1978 an ITC of 7 per cent on 'qualified' property.[16] However, where the CIT otherwise payable exceeds $15,000, one half of the excess tax may be deducted to the extent of the available unused credit. Any remaining balance may be carried forward for up to five tax years. For corporations with substantial taxable income relative to the size of new capital acquisitions, this means that the 7 per cent credit can be deducted in full in the year of acquisition. However, when the taxable income of the corporation is relatively small, vis-à-vis the cost of asset acquisition, the credit may not be applied until later years and conceivably may be lost in whole or in part. The simulations carried out for this report assumed that the credits applied to all capital acquisitions, and that they were fully credited against corporate tax immediately - the normal situation in normal times for most substantial corporations.

Integration would provide a greater degree of equity, inasmuch as the taxes paid on corporate source income would be exactly in accordance with the marginal tax rates of shareholders.[17] This is not entirely the situation with the existing system, but one would have to give enormous weight to the elimination of this non-blatant imperfection to be willing to tackle full integration, given all the analytic uncertainties and transactions costs that have been identified.

Cost Effectiveness

How cost effective is the existing dividend tax credit (DTC) compared with ITCs? As is shown in Appendix 11A, the estimated revenue cost of the DTC in 1979 was $934 million, federal and provincial. Because the TAX model does not take into account all of the recent concessionary and other

16 Higher rates apply in some regions.
17 See Appendix 11D.

industry specific provisions of the CIT and PIT, and because some basic data are not readily available, it is not possible to estimate the resulting effects directly. However, it is possible to simulate the major effects under the simplying assumptions of the TAX model (as specified in the appendix). These assumptions concern such variables as the mix of debt, equity, and retained earnings and their prices, payout ratios and required after-tax rates of return. It is possible to estimate the effects of eliminating the DTC on an investment of $10,000 with an effective life of ten years. It is estimated, as shown in Appendix 11A, that the removal of the DTC would have the following effects, assuming the marginal investor were a resident and had a marginal personal tax rate of 50 per cent.

Estimated effects of eliminating the dividend tax credit under TAX model assumptions (per cent):

Change in government revenues	+ 23.5
Change in net investor income	- 33.3
Change in user cost of capital	+ 11.5

By way of constrast, consider the estimated effects, using the same TAX model and the same assumptions, of replacing the DTC with an ITC of 15 per cent. The results are as follows:

	Percentage point changes		
	Government revenue	Net investor income	User cost of capital
Eliminate DTC	+ 23.5	- 33.3	+ 11.5
Introduce ITC	- 9.7	+ 15.7	- 15.3

Substitution of ITCs at a rate of 15 per cent for the existing DTC would increase by one-third the reduction in the user cost of capital - the key variable in stimulating business capital formation. There would be an 11 per cent increase in tax revenue with a 23 per cent reduction in investor income.

The results from the model are not necessarily the real world results, although there seems little doubt that they are correct in terms of direction and relative order of magnitude. They are strong enough to raise significant doubt concerning the relative cost effectiveness of the existing DTC as a means of encouraging corporate investment. This says nothing, of course, concerning its efficacy as a means of redistributing income.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. The full integration of PIT and CIT for Ontario residents could have a favourable effect on capital investment and economic growth if five important assumptions, among others, were to hold:[18]

   (a) The marginal investor in Ontario corporate shares is both a resident of the jurisdiction and has a relatively low marginal PIT rate.

   (b) The increase in the after-tax return on Ontario corporate shares is fully capitalized in the price of the shares and the user cost of capital to Ontario-based corporations consequently declines.

   (c) The elasticity of corporate fixed capital formation with respect to the user cost of capital is significantly large.

   (d) Other jurisdictions do not retaliate by, for example, imposing withholding taxes on the 'foreign' source income of Ontario investors or by refusing to credit Ontario corporate tax for their own residents receiving dividends by virtue of holding shares in Ontario corporations. Such retaliatory measures would largely nullify (or worse) the effect of the PIT-CIT system in Ontario.

   (e) The potential net benefits from an Ontario PIT-CIT integration previously identified are not offset, or more than offset, by the heavy transactions costs necessarily involved in dealing with the several serious 'technical' problems cited above.

18 The other assumptions are specified in the discussion of Todd TAX model, Appendix 11A.

2. The validity of these assumptions (and of those specified earlier, with respect to the experiment with the TAX model) is either not known or, as is true in the case of (a), not knowable. There is a significant probability that several of the testable assumptions would prove to be false, or largely false.

3. On the other side of the ledger, an experiment with the TAX model suggests that a system of investment tax credits that could be introduced under the existing separate Ontario CIT (admittedly this would not offer a solution to unincorporated businesses in Ontario[19]) would be substantially more cost effective per dollar of revenue forgone, more certain in its effect, and immensely superior from an administrative-compliance cost point of view to an integration of CIT and a separate Ontario PIT.

4. Thus, there seems to be little if any economic justification for the adoption of a separate Ontario PIT as a means of stimulating corporate capital formation in the province. Indeed, on the basis of our results, the cost effectiveness of the existing federal-provincial dividend tax credit system is called into question.

19 As was explained in Chapter 2, the federal government has now agreed to allow British Columbia to offer a provincial PIT credit for British Columbia residents for certain interest receipts on a type of B.C. bond while continuing to administer the B.C. PIT under the Tax Collection Agreements. There would be little reason, therefore, for the federal government to object to administering for Ontario an investment credit scheme that applied to unincorporated business.

Appendix 11A
The TAX-2 model and results[1]

This appendix reports on the Tax Alternative X-Comparison Package - Version 2 (TAX-2), developed by Econalysis Consulting Services, Inc. TAX-2 is a computerized user-oriented system which calculates the return that a corporation must earn on an investment, before all corporate and personal taxes, in order for investors to earn a specified after-tax return. This is denoted the pre-tax user cost of capital. A comparison is made between the pre-tax user cost of capital for the current tax system and for a fully integrated tax system.

TAX-2 breaks the pre-tax user cost of capital into its components, including the costs of debt, equity, and retained earnings, which together make up the cost of finance and the cost of depreciation. It also details the distribution of pre-tax corporate earnings to show the receipts of debt holders, equity holders, and the tax authorities (federal and provincial). These results are used for comparisons between the current tax system and a fully integrated tax system based on any one of three assumptions. The three allowable assumptions are: (1) the investment earns the pre-tax user cost of capital as calculated for each tax system; (2) the same pre-tax return is earned under each tax system, with this return set equal to the pre-tax user cost under the current tax system; or (3) the return is an exogenously specified rate.

The calculations are based on a number of exogenous parameters, including a number of tax rates, the sources of capital, real after-tax returns, the payout ratio, and the depreciation and capital cost allowance rates.

The primary function of TAX-2 is to examine the potential effects on net investor income and on the user cost of capital of introducing full

1 This appendix was prepared by John Todd and Douglas Hartle.

integration of corporate and personal taxes into the Canadian tax system. The interpretation of these effects depends on whether the economy is viewed as being small and open or large and closed. The package can be used to examine the effects of integration at any level of aggregation - i.e., an individual investment, a corporation, an industry, or investment in the economy as a whole.

For the PIT study, TAX-2 has been extended to study the implications of the investment tax credit, the small business deduction, and Ontario's Small Business Development Corporations Program. The current version of TAX-2 is in real terms. However, TAX-2 has been designed to permit the ready implementation of extensions to consider the effects of inflation, other economic factors, or changes to the current tax system.

The first section of this appendix summarizes the effects of integration on net investor income and the user cost of capital, respectively, as determined by TAX-2. The second section provides a context for interpreting the findings presented in the first section by discussing the various assumptions inherent in the numbers produced. As noted above, the relevance and interpretation of the outputs depend on whether the economy to which the results are applied is large and closed or small and open. Since the Canadian-Ontario economies are small and open, the interpretations appropriate to that context are highlighted. The third section discusses the important issue of the significance of the numbers produced by TAX-2 when applied at different levels of aggregation of investment. The fourth section discusses the cost of several specific tax credits that TAX-2 was used to examine. A fifth section provides detailed technical information on the model, broken down into two parts:

- Exogenous parameters
- Calculation methodology

The sixth section describes the theoretical development of the user cost of capital, and the seventh and final section contains a sample output of TAX-2.

EFFECTS OF INTEGRATION

TAX-2 runs were made to measure the potential effects of full integration on net investor income, effective tax rates, and the pre-tax user cost of

equity capital. Effects were determined for investors with marginal tax rates of 30, 35, 40, 45, and 50 per cent. In each case, the per cent difference between the two tax systems was calculated. The results are reported in Tables 11A.1 through 11A.6.

As can be seen, the per cent change in the net income of investors that results from a change in the tax system is quite insensitive to the marginal tax rate of the marginal investor. Table 11A.1 shows that as the marginal tax rate of the marginal investors ranges from 30 per cent to 50 per cent, the per cent difference in net investor income moves from +39.6 per cent to +33.3 per cent. This indicates that a change from the current tax system to a fully integrated tax system will increase the earnings of resident investors by about 33 to 40 per cent, based on the following assumptions:

1. The entire reduction in the tax burden resulting from the change in the tax system accrues to investors (i.e., not to employees or consumers through wage or price adjustments).
2. The rate of return on corporate investment does not change when the tax regime changes.
3. The required after-tax return of investors, proportions of debt, equity and retained earnings in new investment, the duration of investment, and the payout ratio are unaffected by the change in the tax system.
4. Debt and equity investors have the same marginal tax rate.
5. Personal tax rates are not increased (i.e., no macroeconomic effects).

Since these assumptions greatly oversimplify reality, they are examined more closely in the second section of this appendix.

The small variation in the per cent differences in net income indicates that the taxes saved due to the change in tax systems are almost proportional to the net income under the current tax system. Investors with lower personal marginal tax rates have higher net income under the current tax system and they also gain the most from the change in the tax system.

Table 11A.2, which is discussed fully in the next section, shows the effect on net investor income if the marginal tax rate of investors should change. (Or, if investors with different tax rates are compared.)

Tables 11A.3 and 11A.4 compare the effective tax rates under the

TABLE 11A.1
Net investor income - current tax system versus fully integrated tax system

Marginal tax rate of equity investors	Current system	Fully integrated	Per cent difference
30%	49.26	68.79	39.63
35%	46.76	64.69	38.33
40%	44.31	60.65	36.88
45%	41.92	56.69	35.23
50%	39.60	52.80	33.34

TABLE 11A.2
Inter-tax rate per cent changes - net investor income

	Current system marginal tax rate				
Fully integrated marginal tax rates	30%	35%	40%	45%	50%
30%	39.63	47.11	55.25	64.10	73.71
35%	31.32	38.33	45.99	54.32	63.36
40%	23.12	29.70	36.88	44.68	53.16
45%	15.08	21.24	27.94	35.23	43.16
50%	7.19	12.92	19.16	25.95	33.34

TABLE 11A.3
Effective tax rates on gross return

Marginal tax rate of equity investors	Current tax system	Fully integrated	Ratio
30%	21.81	12.33	.565
35%	23.00	14.34	.623
40%	24.19	16.35	.676
45%	25.38	18.36	.723
50%	26.57	20.26	.766

TABLE 11A.4
Effective tax rates on net taxable corporate income

Marginal tax rate of equity investors	Current tax system	Fully integrated	Ratio
30%	53.06	30	.565
35%	56.13	35	.624
40%	59.17	40	.676
45%	62.23	45	.723
50%	65.26	50	.766

TABLE 11A.5
User cost of capital - current tax system versus fully integrated tax system

Marginal tax rate of equity investors	Current system	Fully integrated	Per cent difference
30%	20.59	17.51	-14.98
35%	20.70	18.01	-13.00
40%	20.84	18.60	-10.76
45%	21.02	19.29	-8.21
50%	21.25	20.13	-5.27

TABLE 11A.6
Inter-tax rate per cent changes - user cost of capital

	Current system marginal tax rate				
Fully integrated marginal tax rates	30%	35%	40%	45%	50%
30%	-14.98	-15.41	-15.98	-16.70	-17.60
35%	-12.53	-13.00	-13.58	-14.32	-15.25
40%	-9.67	-10.14	-10.76	-11.51	-12.47
45%	-6.31	-6.81	-7.44	-8.21	-9.37
50%	-2.23	-2.75	-3.41	-4.24	-5.27

alternative tax system. They show that the fully integrated tax system is more progressive than the current tax system; hence, the change is progressive in that the tax saving due to integration is greater for lower income investors (i.e., those with a lower marginal tax rate).

If it is assumed that the marginal investor is a resident (which may be the case in specific sectors of the Canadian-Ontario economies, although they are essentially small, open economies), then the effect of full integration on the pre-tax user cost of capital is as shown in Table 11A.5. As this table shows, the per cent change is dependent on the marginal tax rate of the marginal investor. The per cent difference in the user cost of capital ranges from a reduction of almost 15 per cent to a reduction of 5.3 per cent for marginal tax rates of the marginal investor ranging from 30 per cent to 50 per cent.

The reduction in the user cost of capital results from the reduced tax burden on income earned on equity investment. This is shown in Tables 11A.7 through 11A.10. Table 11A.7 breaks the pre-tax user cost of capital into its two prime components: the cost of finance and the cost of depreciation. With full integration, the cost of depreciation increases; however, this increase is more than offset by the large decrease in the pre-tax cost of finance from the 11 to 12 per cent range to the 8 to 11 per cent range for the different marginal assumptions for the tax rates of investors.

The cost of finance is further broken down in Tables 11A.9 and 11A.10. The cost of debt is unaffected by integration, since interest payments are tax deductible at the corporate level. The cost of equity is decreased by 25 to 33 per cent by full integration. The decrease in the cost of retained earnings ranges from nil for a marginal investor with a 50 per cent marginal tax rate to 36 per cent for marginal investor with a 30 per cent marginal tax rate. Clearly, it is the cost of the equity and retained earnings components that are the source of the decrease in the user cost of capital with full integration. It is the cost of retained earnings that is the primary source of variation with the marginal tax rate of the marginal investor.

It may be noted that the increase in the cost of depreciation reflects the reduced value of deferring taxable income when tax rates are reduced.

The user cost of capital will not be affected at all by full integration if the marginal investor is a non-resident. Therefore, the user cost of capital calculations depend on two assumptions in addition to the tax listed

TABLE 11A.7
Breakdown of user cost of capital effects

Marginal tax rate of equity investors	Cost of finance (%)			Cost of depreciation[a] (%)			User cost of capital (%)		
	Current	Integrated	Diff.(%)	Current	Integrated	Diff.(%)	Current	Integrated	Diff.(%)
30%	11.54	7.91	-31.44	3.20	7.09	121.24	20.59	17.51	-14.98
35%	11.65	8.52	-26.86	3.20	6.34	97.93	20.70	18.01	-13.00
40%	11.79	9.23	-21.71	3.20	5.47	70.73	20.84	18.60	-10.76
45%	11.97	10.07	-15.86	3.20	4.44	38.58	21.02	19.29	-8.21
50%	12.20	11.08	-9.18	3.20	3.20	0.0	21.25	20.13	-5.27

a Cost of depreciation includes disposition cost. In other words, full life cycle depreciation costs are considered.

TABLE 11A.8
Relative costs of user cost of capital components

Marginal tax rate of equity investors	Ratio = $\frac{\text{Cost of finance}}{\text{User cost of capital}}$		Ratio = $\frac{\text{Cost of depreciation}}{\text{User cost of capital}}$		Ratio = $\frac{\text{Cost of finance}}{\text{Cost of depreciation}}$	
	Current	Integrated	Current	Integrated	Current	Integrated
30%	.560	.452	.155	.405	3.61	1.12
35%	.563	.473	.155	.352	3.64	1.34
40%	.565	.496	.154	.294	3.68	1.69
45%	.569	.522	.152	.230	3.74	2.26
50%	.574	.550	.151	.159	3.81	3.46

TABLE 11A.9
Breakdown of cost of finance effects

Marginal tax rate of equity investors	Cost of debt (%)	Cost of equity (%)			Cost of retained earnings (%)			Cost of finance (%)		
		Current	Integrated	Diff.(%)	Current	Integrated	Diff.(%)	Current	Integrated	Diff.(%)
30%	2.86	17.03	11.43	-32.90	17.88	11.43	-36.09	11.54	7.91	-31.44
35%	3.08	17.90	12.31	-31.25	17.45	12.31	-29.49	11.65	8.52	-26.86
40%	3.33	18.89	13.33	-29.41	17.00	13.33	-21.57	11.79	9.23	-21.71
45%	3.64	20.02	14.55	-27.35	16.52	14.55	-11.93	11.97	10.07	-15.86
50%	4.00	21.33	16.00	-25.00	16.00	16.00	0.0	12.20	11.08	-9.18

TABLE 11A.10
Relative costs of finance cost components

Marginal tax rate of equity investors	Ratio = $\frac{\text{Cost of debt}}{\text{Cost of finance}}$		Ratio = $\frac{\text{Cost of equity}}{\text{Cost of finance}}$		Ratio = $\frac{\text{Cost ret. earn.}}{\text{Cost of finance}}$		Ratio debt: equity: ret. earn.	
	Current	Integrated	Current	Integrated	Current	Integrated	Current	Integrated
30%	.248	.362	1.48	1.45	1.55	1.45	1:5.95:6.25	1:4.00:4.00
35%	.264	.362	1.54	1.44	1.50	1.44	1:5.81:5.67	1:4.00:4.00
40%	.282	.361	1.60	1.44	1.44	1.44	1:5.67:5.11	1:4.00:4.00
45%	.304	.361	1.67	1.44	1.38	1.44	1:5.50:4.54	1:4.00:4.00
50%	.328	.361	1.75	1.44	1.31	1.44	1:5.33:4.00	1:4.00:4.00

for the net investor income calculations. They are:

6. The marginal tax rate of the marginal investor is the same under both tax regimes.
7. The marginal investor is a resident.

These assumptions are discussed in the next section.

DISCUSSION OF ASSUMPTIONS

Investors capture benefits

The calculations reported assume that the full benefit in terms of a reduced total tax burden (see Tables 11A.3 and 11A.4) is captured by investors. It is possible, however, that over time some of these benefits could be shifted to either employees in the form of higher wages or to consumers in the form of lower product prices. The extent of this shifting will depend on the relative bargaining power of employees and management and the competitive environment of the product market.

This shifting represents an increase in costs of, or a reduction in revenues to, the firm, which would lower the return on investment in response to the lower user cost of capital. This lower return, in turn, would reduce net investor income, since the effects of a restructuring of the tax system - particularly on the relative bargaining positions of management and employees - is not easily predicted. As a result, it can only be concluded that the estimated effects as stated above must be viewed as the upper limit on the response, since shifting may partially offset the benefit to investors.

In the large, closed economy scenario, this effect is partially offset by the fact that previously submarginal new investments will become attractive. Therefore, new equity capital would be available (i.e., new shares issues) at a price that would provide economic profits to existing shareholders. In other words, opportunities would exist to increase the share value of existing securities above the estimated values by issuing new shares to finance new investment. Although higher returns to residents may induce them to invest more even in the small, open economy scenario, this will not lead to any capital gains, since the market cost of capital will be unaffected.

No change in corporate return on investment

The estimates of net investor income given in the first section are based on the assumption that the corporate return on investment is the same under both tax regimes. This holds true in a small, open economy. It also holds true in a large, closed economy as long as investors capture the benefits of the tax change.

This implies that the only effect of full integration is that resident investors, both those holding shares prior to the change in tax system and those buying shares after the change, will fully capture the benefit of full integration. This will be the case in a small, open economy, since the market rate of interest will not change; hence, the benefits will not be capitalized (i.e., the marginal investor is a non-resident, both before and after the tax change, although additional resident investment will be attracted into the equity market by the increase in the return available to resident equity investors as a result of full integration).

No change in exogenous parameters of the algorithm

The results provided assume that all the exogenous parameters remain constant. Specifically, it is assumed that:

- proportions of debt, equity, and retained earnings remain the same;
- required returns remain the same (user cost of capital calculation only);
- payout ratio remains the same; and
- duration of investment remains the same.

Each of these is discussed in more detail below.

Proportions of debt, equity, and retained earnings

The default values used for the proportions of debt, equity, and retained earnings reflect the make-up of the current stock of investment capital in Canada. Economic conditions dictate the make-up of new investment, which may be very different from the existing average proportions.

Since the user cost of capital depends on the proportions of debt, equity, and retained earnings, any changes to the proportions will change

the user cost. As the last two columns of Table 11A.10 show, the cost of debt relative to the cost of equity is higher with the fully integrated tax system than with the current tax system for all marginal tax rates (the higher the tax rate, the less the difference between the two tax systems). Also, with the fully integrated tax system, the cost of retained earnings is higher relative to the cost of equity (for all marginal tax rates over 33 per cent) but lower relative to the cost of debt (except for a tax rate over 50 per cent). This indicates that with full integration there would be an incentive to increase the proportions of equity and, to a lesser extent, retained earnings on new financing relative to the proportions that would be used under the current tax system. If such substitution did take place, the overall user cost of capital would be higher than that estimated for the fully integrated tax system; hence, the benefit of integration to investors would be less.

This effect would change the user cost of capital for future investment, but it would have no effect on the net investor income realized on existing investment.

Required return

The same values for the required after-tax returns of debtholders and equityholders are used for determining the user costs and net investor income for both tax systems. This assumption holds true only in a large, closed economy in which the supply of funds is perfectly elastic. As a consequence, the pre-tax user cost of capital effect should be interpreted as the potential effect if the forgone tax revenue translated exclusively into a lower market rate of interest. This would be the case in a large, closed economy in which equity investment was a small portion of total saving.

In a small, open economy, as is the normal view of Canada-Ontario, it is the market rate of interest which is fixed. The effect of full integration for this scenario is best reflected by the net investor income outputs. These compare net investor income for the two tax systems, assuming the return on investment is the same for both tax systems. The return on investment is set equal to the pre-tax user cost of capital for the current system as calculated by TAX-2.

Payout ratio

As already noted, the cost of retained earnings relative to equity increases with the introduction of full integration (despite an absolute cost decline unless the marginal investor's marginal tax rate is above 50 per cent). This factor would tend to encourage an increase in the payout ratio. However, the efficiencies (in terms of transaction costs) and convenience of retained earnings are likely to dominate the effect of such small changes in the relative costs of equity and retained earnings; hence, it is unlikely that the change in the tax system is likely to lead to a significant change in corporate payout ratios.

The payout ratio of different stocks does vary widely. As a result, the effect on net investor income from different investments will differ greatly. Table 11A.11 shows this variance, showing the effects of both the payout rates and the marginal tax rate of equity investors on the benefit to resident investors of full integration.

For investors with a 50 per cent marginal tax rate, the effect on net investor income is independent of the payout ratio (33.3 per cent increase for all payout ratios). For lower tax rate investors, the lower the payout ratio, the greater the benefit of integration. The relative benefit of a low payout ratio increases as the marginal tax rate of the investor decreases. For an investor with a 30 per cent marginal tax rate, the benefit of full integration or a zero payout stock is more than double that on a 100 per cent payout stock.

In absolute terms, with full integration, the lower the marginal tax rate of an investor, the greater is the relative return on low payout stocks. Currently there is no difference, except for the benefits of deferral which are only available with capital gains. It should be expected, therefore, that one effect of full integration would be to increase the relative holdings of low marginal rate investors of low payout stocks.

Duration of investment

As can be seen from Table 11A.14, both the user cost of capital and the per cent difference in the user cost of capital are sensitive to the assumed duration of investment. Similarly, net investor income is sensitive if the marginal tax rate of investors is not 50 per cent (i.e., not equal to the current corporate tax rate), as is shown in Table 11A.13.

TABLE 11A.11
Net investor income - effect of payout ratio

Marginal tax rate of equity investors	Tax system	Payout ratio 0.0	0.2	0.4	0.5	0.6	0.8	1.0
30%	Current	48.72	49.07	49.24	49.26	49.24	49.07	48.72
	Integrated	76.43	73.37	70.31	68.79	67.26	64.20	61.15
	Difference	56.87	49.53	42.79	39.63	36.59	30.84	25.51
35%	Current	46.44	46.65	46.75	46.76	46.75	46.65	46.44
	Integrated	70.31	68.06	65.81	64.69	63.56	61.31	59.06
	Difference	51.41	45.91	40.77	38.33	35.96	31.44	27.18
40%	Current	44.16	44.26	44.31	44.31	44.31	44.26	44.16
	Integrated	64.33	62.86	61.39	60.65	59.92	58.44	56.97
	Difference	45.68	42.03	38.55	36.88	35.23	32.06	29.02
45%	Current	41.88	41.90	41.92	41.92	41.92	41.90	41.88
	Integrated	58.49	57.77	57.05	56.69	56.33	55.61	54.89
	Difference	39.66	37.85	36.09	35.23	34.38	32.70	31.06
50%	Current	39.60	39.60	39.60	39.60	39.60	39.60	39.60
	Integrated	52.80	52.80	52.80	52.80	52.80	52.80	52.80
	Difference	33.34	33.34	33.34	33.34	33.34	33.34	33.34

TABLE 11A.12
Net cost of capital - effect of payout ratio

Marginal tax rate of equity investors	Tax system	Payout ratio 0.0	0.2	0.4	0.5	0.6	0.8	1.0
30%	Current	21.68	21.24	20.81	20.59	20.37	19.93	19.50
	Integrated	17.51	17.51	17.51	17.51	17.51	17.51	17.51
	Difference	-19.26	-17.60	-15.87	-14.98	-14.07	-12.18	-10.22
35%	Current	21.57	21.22	20.87	20.70	20.53	20.18	19.83
	Integrated	18.01	18.01	18.01	18.01	18.01	18.01	18.01
	Difference	-16.49	-15.13	-13.72	-13.00	-12.26	-10.76	-9.20
40%	Current	21.45	21.21	20.96	20.84	20.72	20.47	20.23
	Integrated	18.60	18.60	18.60	18.60	18.60	18.60	18.60
	Difference	-13.31	-12.31	-11.28	-10.76	-10.23	-9.15	-8.05
45%	Current	21.34	21.21	21.08	21.02	20.95	20.82	20.69
	Integrated	19.29	19.29	19.29	19.29	19.29	19.29	19.29
	Difference	-9.61	-9.06	-8.49	-8.21	-7.92	-7.34	-6.76
50%	Current	21.25	21.25	21.25	21.25	21.25	21.25	21.25
	Integrated	20.13	20.13	20.13	20.13	20.13	20.13	20.13
	Difference	-5.27	-5.27	-5.27	-5.27	-5.27	-5.27	-5.27

TABLE 11A.13
Net investor income - duration of investment comparisons[a]

Marginal tax rate of equity investors	Duration of investment	Current system	Fully integrated	Per cent difference
30%	3	49.26	58.37	18.49
	6	49.26	67.80	37.63
	10	49.26	68.79	39.63
50%	3	39.60	52.80	33.34
	6	39.60	52.80	33.34
	10	39.60	52.80	33.34

TABLE 11A.14
User cost of capital - duration of investment comparisons[a]

Marginal tax rate of equity investors	Duration of investment	Current system	Fully integrated	Per cent difference
30%	3	17.99	16.39	-8.87
	6	20.34	17.40	-14.47
	10	20.59	17.51	-14.98
50%	3	18.64	17.52	-6.01
	6	21.00	19.88	-5.33
	10	21.25	20.13	-5.27

TABLE 11A.15
Cost of depreciation - duration of investment comparisons[a]

Marginal tax rate of equity investors	Duration of investment	Current system	Fully integrated	Per cent difference
30%	3	-4.67	3.71	n.a.
	6	0.01	5.72	572.00
	10	3.20	7.09	121.24
50%	3	-4.67	-4.67	0.0
	6	0.01	0.01	0.0
	10	3.20	3.20	0.0

a Marginal tax rate for debtholders is 50 per cent for all calculations.

This effect is totally accounted for by the cost of depreciation and disposition, which increases as the duration of the investment increases since the average annual value of the tax deferral decreases (see Table 11A.15). The estimated net investor income effects produced in the first section are, therefore, minimum estimates if the average duration of an investment is less than 10 years. For an average investment duration significantly less than 10 years, the effect of introducing full integration on security prices will be reduced from 40 per cent to only 18.5 per cent. On the other hand, if actual duration is greater than 10 years, the error in estimating the effects of full integration is small. Further empirical work to determine a better estimate of the duration of investments will improve the significance of the estimated effect of a change in the tax system on security prices.

Debt and equity investors have the same marginal tax rate

In the calculations in the first section, the marginal tax rates of investors are assumed to apply to both debt and equity investors. That is, the calculations assume that the marginal debt investors and marginal equity investors have the same marginal tax rate.

If this assumption is dropped, all of the net income calculations are unaffected; however, the user cost of capital calculations are affected slightly. This is demonstrated by Tables 11A.16 and 11A.17, which compare the results when the marginal tax rate of debtholders equals that of equityholders with the results when the marginal tax rate of debtholders is fixed at 50 per cent regardless of the marginal tax rate of equityholders. Overall, the effects are minimal; therefore, deviations from this assumptions are unimportant.

No macroeconomic effects

No consideration is given to how the government's lost tax revenue is made up in the calculations of the first section. If personal tax rates are increased, then both the increase in net investor income and the decrease in the user cost of capital will be partially offset. Naturally, the net effect of introducing a fully integrated tax system will depend on the net reduction in the effective tax rate.

Table 11A.16
Net investor income with debtholders marginal tax rate fixed and variable

Marginal tax rate of equity investor	Marginal tax rate of debt investor equals that of equity investor			Marginal tax rate of debt investor equals 50%		
	Current	Integrated	Diff.	Current	Integrated	Diff.
30%	49.26	68.79	39.63	49.26	68.79	39.63
35%	46.76	64.69	38.33	46.76	64.69	38.33
40%	44.31	60.65	36.88	44.31	60.65	36.88
45%	41.92	56.69	35.23	41.92	56.69	35.23
50%	39.60	52.80	33.34	39.60	52.80	33.34

TABLE 11A.17
User cost of capital with debtholders marginal tax rate fixed and variable

Marginal tax rate of equity investor	Marginal tax rate of debt investor equals that of equity investor			Marginal tax rate of debt investor equals 50%		
	Current	Integrated	Diff.	Current	Integrated	Diff.
30%	20.59	17.51	-14.98	21.06	17.97	-14.64
35%	20.70	18.01	-13.00	21.08	18.39	-12.76
40%	20.84	18.60	-10.76	21.11	18.87	-10.62
45%	21.02	19.29	-8.21	21.17	19.44	-8.15
50%	21.25	20.13	-5.27	21.25	20.13	-5.27

Consideration of government action in response to the lost tax revenue is of primary importance when examining the macroeconomic effects of the change in the tax system.

There may also be direct macroeconomic effects of full integration. While these effects may be relevant, they are outside the scope of this analysis.

Marginal tax rate of marginal investors does not change

The estimates of the effects of the change in the tax system used in the first section assume that the marginal investor (i.e., the investor who determines stock prices and hence the user cost of capital) has the same marginal tax rates under each tax system. This does not seem unreasonable with the scenario used (i.e., if the other assumptions are valid), since investors in all tax brackets from 35 per cent to 50 per cent realize proportionately similar benefits from the change in the tax system. This implies that the relative valuations of securities by investors with different marginal tax rates will not change significantly. This, in turn, indicates that there will be no incentive for a major shift in who holds equity securities.

Since the benefits can be expected to be immediately capitalized into the price of all equity securities, equity securities will be no more attractive to investors relative to other investments than under the current tax system; therefore, there should be no general shift in investment that could change the marginal investor.

It should be noted that if certain of the other assumptions do not hold, relative valuations of investors with different marginal tax rates could change. This could lead to a change in the marginal tax rate of the marginal investor. These possible effects are addressed in the discussion of the other assumptions.

Tables 11A.2 and 11A.6 show the per cent changes in the net income of the marginal investor and user cost of capital respectively if there is a change in the marginal tax rate of the marginal investor. These tables show that the range of possible outcomes is somewhat greater if the relevant marginal tax rate changes when the tax system changes.

The marginal investor is a resident

Full integration does not reduce the effective tax rate of non-residents unless they can claim a tax credit for corporate withholding tax (under the fully integrated system), which cannot be claimed when it is treated as corporate tax (current system). Any reduction in the current personal tax liability is exactly offset by increased taxes in their country of residence (assuming the U.S. tax system applies).

The valuation of securities by non-residents, therefore, will be unaffected by the change in the tax system. If non-residents are the marginal investors, then stock prices will be unaffected by the change in the tax system. If this is the case, however, the attractiveness of equity investment for residents is increased, since the after-tax rate of return earned by residents will increase.

While the high proportion of foreign ownership in the Canadian economy raises some question as to the validity of the assumption that the marginal investor is a resident, the issue is not meaningful in the context of the economy as a whole. The securities of many Canadian corporations are sufficiently accessible to foreign investors that it may be valid to consider non-residents to be the marginal investor; however, a closer look at their marginal tax rates and required after-tax rates of return would be necessary before any definite conclusion could be reached. For the many Canadian corporations that are fairly inaccessible to foreign investors (e.g., due to informational problems), it is unlikely that non-residents are the marginal investors. This issue is commented on further in the next section.

AGGREGATED VERSUS DISAGGREGATED PERSPECTIVE

The preceding discussion was based on the assumption that the effects of a change in the tax system can be considered on an "across the economy basis". While this highly aggregated approach does give some insight into the effects full integration may have on net investor income or the user cost of capital, the actual effects will vary greatly from industry to industry, and even from firm to firm.

TAX-2 can be used to estimate the economy-wide effects by using economy-wide average values for the exogenous parameters. It can also be applied to specific industries, corporations, or investments by using the appropriate values for the exogenous parameters. The narrower the perspective, the more closely will the estimated effects reflect the implications for specific securities or investments. The ideal approach to determining the effect on the price of securities would be to disaggregate the analysis to the corporate level, then aggregate the individual effects across the economy.

The ideal approach to determining the user cost of capital would be to disaggregate future investment by type of financing, then aggregate across the economy, with explicit consideration taken of the marginal investor.

The benefits of disaggregation are many. Development of an exhaustive list of these benefits would require examining the implications of each exogenous parameter for disaggregation and also the implications of each assumption. A few of the more important points are discussed below.

The marginal investor

The effect of integration on the marginal investor determines the extent to which benefits are capitalized. Capitalization, in turn, determines the effect of integration on security prices and the user cost of capital. Since the Canadian-Ontario economies are small and open, marginal effects are determined by the effects of integration on non-resident investors for many equity securities. For these stocks, no price or user cost of capital effects will be realized.

However, Canadian corporations attract very little foreign investment. It is highly unlikely that the marginal investors in the securities of these corporations are non-residents; hence both a price effect and user cost effect can be expected. Some estimates of the proportion of total equities outstanding for Canadian corporations that fall into the latter category would assist greatly in determining the overall effect of full integration on the stock market and the user cost of capital.

In addition, different classes of stocks are likely to be held by different types of investors; hence the marginal tax rate of the marginal investor is likely to vary among corporations. In particular, as Table 11A.11 indicates, low marginal tax rate investors are likely to adjust their

stock holdings to increase the proportion of securities with a low payout ratio. Explicit consideration of securities disaggregated by payout ratio would permit the use of appropriate marginal tax rates, which may differ for each payout grouping. This would improve the estimates of the effect of a change in the tax system and better indicate whether a change in the marginal tax rate of the investor at the margin is likely.

Finally, inter-corporate and institutional holdings are sufficiently important that disaggregating the market to permit explicit consideration of the effects of securities prices and the user cost of capital where a corporation or institution (e.g., pension fund) may be the marginal investor would be valuable. In these cases, as with non-resident marginal shareholders, the effects of integration on stock prices and the user cost of capital are nil.

Proportions of debt, equity, and retained earnings

Both the user cost of capital and the net investor income are affected by the make-up of the sources of capital. As a result, the effect of integration on net investor income will vary depending on the proportions of debt, equity, and retained earnings. In addition, in a large, closed economy, integration changes the relative costs of the different sources of capital, which, in turn, will affect the future user cost of capital. A disaggregated analysis would be useful to find the differential impacts on industries that utilize, or have access to, capital sources in different proportions.

Investment tax credit

An investment tax credit (and other special tax benefits) are available only for certain investments. A disaggregated analysis would permit a better estimate of the effects of integration taking into account the investment tax credit. Disaggregation would also permit explicit consideration of other specific tax benefits such as the small business deduction, depletion allowances, etc. The effect of an investment tax credit on all investment is shown in Tables 11A.18 and 11A.21. It is interesting to note that a 15 per cent investment tax credit increases the net investor income by over 15 per cent. A 30 per cent ITC would increase net investor income by an amount comparable to the effect of full integration. A 15 per cent ITC

TABLE 11A.18
Net investor income - effect of investment tax credit

Marginal tax rate of equity investors	Investment tax credit rate	Current system	Fully integrated	Per cent difference
30%	0%	49.61	69.30	39.68
	3%	50.78	71.09	39.99
	7%	52.80	74.15	40.44
	15%	56.83	80.27	41.25
50%	0%	39.61	52.82	33.34
	3%	40.86	54.48	33.34
	7%	42.52	56.70	33.34
	15%	45.84	61.13	33.34

TABLE 11A.19
User cost of capital - effect of investment tax credit

Marginal tax rate of equity investors	Investment tax credit rate	Current system	Fully integrated	Per cent difference
30%	0%	20.59	17.51	-14.98
	3%	19.96	16.98	-14.95
	7%	19.12	16.27	-14.92
	15%	17.44	14.85	-14.84
50%	0%	21.25	20.13	-5.27
	3%	20.60	19.51	-5.27
	7%	19.73	18.69	-5.28
	15%	18.00	17.05	-5.29

with a CCA allowed on the pre-ITC value of the asset would also have an effect comparable to full integration.[2]

Capital cost allowance and real depreciation

The effective CCA and real depreciation rates vary greatly from industry to industry. A disaggregated analysis would permit this difference to be

2 See the next section for a more extensive discussion of the costs and benefits of the ITC relative to full integration.

TABLE 11A.20
Net investor income - relative effect of alternative investment tax credits[a]

Marginal tax rate of equity investors	Investment tax credit rate	Current system	Fully integrated
30%	0%	0	0
	3%	2.36	2.58
	7%	6.43	7.00
	15%	14.55	15.83
50%	0%	0	0
	3%	3.16	3.14
	7%	7.35	7.35
	15%	15.73	15.73

a Values show effect of investment tax credit relative to no tax credit with the same tax system. Net investor income compares income with and without the investment tax credit, assuming return on investment is held constant (i.e., rate of investment equals user cost of capital with zero investment tax credit).

TABLE 11A.21
User cost of capital - relative effect of alternative investment tax credits[a]

Marginal tax rate of equity investors	Investment tax credit rate	Current system	Fully integrated
30%	0%	0	0
	3%	-3.06	-3.03
	7%	-7.15	-7.08
	15%	-15.30	-15.19
50%	0%	0	0
	3%	-3.06	-3.08
	7%	-7.15	-7.15
	15%	-15.30	-15.30

a See a in Table 11A.20.

TABLE 11A.22
Cost of selected tax credits

Tax expenditure	Cost with other tax expenditures	$	Cost in absence of other tax expenditures
1. Base case	CIT revenue		Combined federal and
	Federal	6,515	provincial CIT & PIT
	Provincial	2,823	tax rate for current
	Total	9,338	system is 65.26
	PIT revenue		
	Dividends	1,028	
	Capital gains	416	
	Total	1,442	
	Combined total	10,780	
	Ontario approx.	1,310	
2. Investment Tax Credit	Federal		For a univeral ITC:
	CIT	612	3% ITC effect is 2%
	PIT	113	7% ITC effect is 4.5%
	Total	725	15% ITC effect is 9.7%
			These effects are reduced proportionately for a non-universal ITC
3. Small Business Deduction	Total federal	1,100	6% of combined total tax revenue
	Ont. share of federal	440	
	Ontario	63	
4. Small Business Development Corporations	Federal	n.a.	12% of total revenue if universal
	Ontario	10	40% of Ontario revenue if universal
			About 1% of investments qualifies; therefore cost is reduced to 0.4%
5. Small Business Development Bond	Federal	200	Not relevant
	Provincial	n.a.	(100% of tax revenue of qualifying interest payments is forgone)
6. Dividend Tax Credit	Federal	640	10.4% of combined total
	Provincial	294	tax revenue
	Total	934	
	(Ontario about $120)		
7. Full integration	Federal	770	13% of combined total
	Provincial	330	tax revenue
	Total	1,100	
	(Ontario $132)		

NOTE: Relative values in the third and fourth columns do not correspond because the third column assumes that all tax credits are in place while the fourth costs each in isolation. Thus the estimates in the fourth column involve some overlapping, whereas the third column does not. Numbers may not add up due to rounding.

considered in determining how the value of securities in different stock groups (and even different companies) would be affected by full integration.

COST OF SELECTED TAX CREDITS

In order to provide a context in which to examine the direct costs and benefits of full integration, it is useful to compare the costs of other tax expenditures. This section assesses the costs of full integration and five tax credits which currently exist. They are:

- Investment Tax Credit (CIT)
- Small Business Deduction (CIT)
- Small Business Development Corporations (CIT)
- Small Business Development Bond (CIT)
- Dividend Tax Credit (PIT)

Table 11A.22 summarizes the cost of the various tax expenditures. The actual absolute cost based on 1979 statistical data is provided. This cost measure takes into account the effective net cost after taking into account all the other tax expenditures which erode the tax base. Table 11A.22 also provides the relative cost, measured as the per cent reduction in total tax revenues on corporate source income, as derived from outputs of TAX-2. This measure indicates what the cost of each tax expenditure would be in the absence of other tax expenditures.

The remainder of this section discusses the derivation and implications of the costs summarized in Table 11A.22.

Actual costs

Base case

The base case for the cost with other tax expenditures is the total tax revenue attributable to corporate source income. This includes both federal and provincial corporate tax revenue and personal income tax on dividends and capital gains from holding shares in Canadian businesses. (Note that interest income is excluded from consideration, since it is un-

affected by the tax provisions considered here.) The calculation is as follows:

i) Corporate income tax (per Corporate Taxation Statistics, 1979)

Federal	$6,515 million
Provincial	2,823 million
TOTAL	$9,338 million

ii) Personal income tax - capital gains (approximate, per Table 16, Taxation Statistics, 1979)

Tax rate (approx.)	Net gain/loss on shares ($ mill.)	Proportion	Tax ($ mill.)
30%	91	.049	13.65
35%	45	.024	10.13
40%	142	.076	28.40
45%	300	.160	67.50
50%	1,297	.691	324.25
TOTAL	1,875	1.00	444

iii) Personal income tax - dividends (approximate, per Table 2, Taxation Statistics, 1979)

Tax rate (approx.)	Taxable amount of dividends ($ mill.)	Proportion	Tax ($ mill.)
30%	94.5	.02	28.3
35%	94.5	.02	33.1
40%	283.7	.06	113.5
45%	992.9	.21	446.8
50%	3,262.3	.64	1,631.2
TOTAL	4,728	1.00	2,253

iv) Dividend tax credit is $1,132 million.

v) Total PIT on dividends and capital gains from shares is $2,697 million. This includes both Canadian and foreign sources. To determine tax on dividends and capital gains on Canadian investments only:

- Dividend Tax Credit (DTC) is $1,132 (per Taxation Statistics);
- DTC is 25 per cent of Canadian dividends; hence, Canadian dividends must be $4,528 million.

Canadian portion of dividends is

4,528/4,728 = .9577 (or, removing gross-up: 3,019/3,219 = .938).

Assuming same proportion applies to capital gains, PIT revenue from Canadian dividends and capital gains is:

($2,253 mill. x .9577 + $444 x .938) - $1,132 = $1,442.

Revenue from Canadian dividends is $2,158 million, and revenue from Canadian capital gains is $416 million.

vi) Combined CIT and PIT revenue from Canadian source revenue is $10,780 million.

Ontario's share of this revenue is approximately 40 per cent of the total provincial share. That is:

CIT	$2823 x .4	=	$1,128 million
PIT	$1442 x (.46/1.46) x.4	=	181 million
	TOTAL		$1,310 million

Investment Tax Credit

The Tax Expenditure Account, 1980, provided estimates for the cost of the Investment Tax Credit. This estimate, however, is inconsistent with more recently published tax statistics. Since there is no explanation of the

differences, the more recent data is used in Table 11A.22. It is assumed that it results from updated information.

i) According to the Tax Expenditure Account (Department of Finance, 1980), lost federal revenue due to ITC for all sectors totalled (in $ millions):

	1976	1977	1978	1979	1980
CIT	100	155	210	330	436
PIT	40	45	55	90	105
TOTAL	140	200	265	420	541

(Figures were based on preliminary data; hence, these estimates do not coincide with figures reported by year in Corporation Taxation Statistics as shown below.)

ii) According to Corporation Taxation Statistics, 1979 (published 1982), tax payable was reduced by corporate investment tax credit by:

1976	1977	1978	1979
$113	$190	$279	$612 million

A PIT value of ITC of $113 million is shown in Taxation Statistics, 1979 (Table 2). Assuming these figures are more accurate, since they are more recent than the Tax Expenditure Account estimates, the combined CIT and PIT value of investors tax credit can be estimated at about $725 million for 1979.

Small Business Deduction

The federal cost of the Small Business Deduction is taken directly from Corporate Taxation Statistics, 1979. The exact reported figure is $1,108 million. The cost of the Small Business Deduction to the Ontario government is derived from this figure as follows:

i) Ontario small business tax abatement was 3 per cent (12 per cent reduced to 9 per cent) in 1979, although it is 12 per cent for 1982 and 1983. This compares with a federal small business deduction of 21 percentage points (46 per cent effectively reduced to 25 per cent).

For the same tax base, Ontario's program will cost one-seventh (14.3 per cent) of the federal program (12/21 = 57 per cent for 1982/83).

ii) Ontario's tax base is approximately 40 per cent of the federal tax base.

iii) Therefore, the estimated cost of Ontario's small business deduction in 1979 is $1,100 mill x .143 x .4 = $63 million;

or for 1982/83:

$1,100 million x .57 x .4 = $250 million plus an adjustment for the change in taxable small business income. (This is unknown; hence the 1979 figures are used.)

Small Business Development Corporations

The July 1982 issue of SBDC News reports that $31.7 million in grants/credits have been approved for the 229 SBDCs registered in the three years that Ontario's SBDC program has been in existence, or an average annual cost of $10 million. No federal cost is applicable, since the program does not exist at the federal level.

Small Business Development Bond

This program did not exist in 1979, the year used for costing the other programs. During the fiscal year ending March 1982, however, $1,968 million was loaned under the SBDB program. The benefit of this program derives from the tax treatment given interest payments (treated as inter-corporate dividends), which makes the value of interest payments taxable for the borrower and non-taxable for the lender. Although the tax positions of lenders and borrowers are unknown, the worst case, and likeliest scenario, is that the marginal tax rate of lenders is 50 per cent and of borrowers zero. Assuming interest charges are 20 per cent (likely to be slightly low due to spending for tax treatment, considering the risk), the cost of the SBDB program can be estimated to be:

$1,968 million x .2 x .5 = $200 million.

There is no provincial cost, since the SBDB program is federal.

Dividend Tax Credit

Turning to consideration of cost of tax expenditures on corporate source income at the personal level, only the Dividend Tax Credit is of importance.

Based on the value of the DTC as reported in Taxation Statistics, 1979 (Table 2), the federal DTC is $1,132 million. Therefore, the implicit provincial dividend tax credit is approximately:

$1,132 x .46 = $521 million.

These costs are however partially offset by the fact that dividends are grossed-up by 50 per cent before tax is calculated. As discussed earlier in this section, the total tax on dividends in 1979 is estimated at $2,158 million. Two-thirds of this results from the normal tax rate; one-third, or $719 million, results from the gross-up. Consequently, the net cost of the dividend tax credit is:

$1,653 - $719 = $934 million

This represents the combined federal and provincial dividend tax credits. The federal portion is $934 (1/1.46) = $640 million. The balance of $294 million is the provincial cost. Cost to Ontario is approximately 40 per cent of the total provincial cost or $118 million.

Full integration

The costs of several of the preceding six tax expenditures are roughly comparable to the estimated cost of full integration, which is $1,100 million. This estimate is derived as follows:

i) Effective tax rate on corporate source income with full integration would be (assuming holdings are distributed per dividends reported in Taxation Statistics):

PIT	Proportion of stocks held	Weight (PIT x proportion)
30%	.01	0.3
35%	.01	0.35
40%	.03	1.2
45%	.12	5.4
50% (resident)	.38	19.0
50% (non-resident and incorp.)	.45	22.5
Total	1.00	48.75

NOTE: This calculation combines federal and provincial taxes.

ii) Based on 1979 taxable corporate income (per Corporation Taxation Statistics, 1979), tax revenue would be:

Taxable income	$24,976 million
Effective CIT rate	0.4875
Tax	$12,176 million
Less: Tax Credits (excluding federal abatement)	-2,480 million
	$ 9,696 million

iii) Using the actual combined PIT and CIT on corporate source income as determined for the base case, the difference in tax revenue on corporate source income is:

Current system	$10,780 million
Full integration	-9,696 million
	$ 1,084 million

Hence, tax forgone as a result of full integration, assuming all other tax expenditures are maintained at their current dollar values (i.e., not proportion of tax payable), is almost $1.1 billion.

Assuming provincial revenues remain at about 30 per cent, as they are in the base case, the cost to the federal government would be $770 million, to the provincial governments $330 million, and to Ontario specifically $132 million.

This calculation assumes that the benefits of corporate tax incentives are allowed to flow through to shareholders.

Relative costs in the absence of other tax expenditures

Base case

The base case for comparing the costs of tax incentives in the absence of other tax expenditures reflects the current tax system. TAX-2 was run assuming the business income did not benefit from any of the corporate tax expenditures. The dividend tax credit and half taxation of capital gains were assumed, however, since they are available to individual taxpayers for all Canadian equities. The results are reported in Tables 11A.1 through 11A.6 above. The aggregate effective combined CIT and PIT tax rate, assuming the distribution of holdings by tax bracket correspond to reported dividends (per Table 2, Taxation Statistics, 1979), is derived as follows:

PIT taxable income[a] ($000)	Federal tax rate (%)	Combined federal and provincial tax rate (%)	Value of dividends ($ million)	Proportion of taxable dividends
Nil	0	0	2.38	.0005
0-1	6	8.76	1.06	.0002
1-2	16	23.36	1.85	.0004
2-4	17	24.82	11.67	.0025
4-6	18	26.28	22.02	.0047
6-10	19	27.74	77.24	.0163
10-14	21	30.66	113.39	.0351
14-18	23	33.58	166.14	.0246
18-22	25	36.5	217.36	.0460
22-28	28	40.88	375.77	.0795
28-50	32	46.72	1,357.17	.2870
50-75	36	52.56	658.10	.1392
75-100	39	56.94	787.58	.1666
over 120	43	62.78	935.13	.1978
TOTAL (may not add exactly due to rounding)			4,727.86	1.00

a These income ranges are aggregates of the data in Table 2 of Taxation Statistics, 1979 to match tax brackets as closely as possible.

Summing up the combined PIT rates, weighted by the proportions, gives the effective average tax rate on taxable dividends income. This is 50.11 per cent. The TAX-2 runs using a 50 per cent PIT rate are therefore used for determining relative costs of the tax credits.

The combined effective PIT and CIT rate that corresponds to a PIT rate of 50 per cent is 65.26 per cent, as shown in Table 11A.4. Since the 1979 taxable corporate income reported was $24,976 million, total potential tax revenue from corporate source income is $16,299. This figure represents the potential total tax revenue net of the tax credit.

Investment Tax Credit

Adding the Investment Tax Credit as the only tax credit with the base case current tax system, potential revenue is reduced by 9.44 per cent for a 7 per cent ITC. This value is calculated as follows:

Case	Total tax revenue[a]	Per cent difference in tax revenues
Base	56.49	0
3 per cent of ITC	55.39	-1.95
7 per cent of ITC	53.94	-4.52
15 per cent of ITC	51.03	-9.67

a Total tax revenue is the equivalent annual worth (EAW) of the CIT and PIT revenues minus the EAW of the ITC credit assuming a 2 per cent discount rate and ten year investment horizon.

Small Business Deduction

Adding the Small Business Deduction as the only tax credit reduces total tax revenue from 56.49 (dollars annually from $1,000 invested) to 39.61. The value applies for a small business CIT rate of 24 per cent and a PIT rate of 50 per cent. The reduction is 30 per cent of total revenue if all income receives the Small Business Deduction.

In 1979, the federal Small Business Deduction claim was $1,108 million, which represents 21 per cent of qualifying income. Qualifying income, therefore, is $1,108/.21 = $5,276 million. Since total taxable corporate income in 1979 was $24,976 million, 21 per cent (5,276/2,4976) of total corporate income qualified for the Small Business Deduction.

The cost of the Small Business Deduction is 21 per cent of the cost calculated for a 24 per cent rate on all corporate income. Hence, 6 per cent of total revenues will be forgone as a result of the Small Business Deduction in isolation.

Small Business Development Corporation

The tax benefit of the SBDC program is based on equity investment in the firm. It is, therefore, treated within TAX-2 as equivalent to an investment tax credit of 30 per cent. The cost of this would be approximately 20 per cent of revenues forgone if the program were universal and paid on all funds invested.

Under Ontario's SBDC program, no more than 49 per cent of total equity investment may be in the form of SBDC funds. In addition, it may be assumed that debt represents 40 per cent of the total value of the funds available to corporations receiving SBDC funds. This figure corresponds to the proportion of debt, as shown in Table 11A.23 in the following section (the table is derived from the Financial Flow Accounts, Statistics Canada, 1981). As a result, only 30 per cent of total investments in qualified venture capital corporations carry the SBDC credit-grant. These factors reduce the measured cost of the SBDC program to 7 per cent of total tax revenues.

Since this program is paid for entirely at the provincial level and is available in Ontario only, this cost is incurred solely by the Ontario treasury. Ontario's revenues are about 30 per cent of total tax revenues on the Ontario corporate source income tax base. Consequently, the SBDC would cost the Ontario treasury 20 per cent of its tax revenue from corporate source income if the program were universal.

In fact, very few investments qualify; hence, the cost is very small (about 1/2 of one per cent of total potential Ontario tax revenues from corporate source income).

Small Business Development Bond

Under the SBDB program, qualifying corporations are permitted to issue up to $500,000 of debt for which interest payments are treated, for tax purposes, as inter-corporate dividends. Qualifying corporations must be in financial difficulty, which implies that their tax rate is zero (in a loss position). It may further be assumed that lenders have a marginal tax rate of 50 per cent. The net effect of the program is to reduce the tax rate on interest received under the program from 50 per cent to nil - at least temporarily.

Due to the $500,000 upper limit on debt issued under this program, the restricted qualifications, etc., it is not meaningful to measure the potential cost, except to note that 100 per cent of tax revenue on the interest payments is forgone.

Dividend Tax Credit

Eliminating the dividend tax credit would increase total tax revenue from 56.49 to 69.69. The dividend tax credit is received by all resident shareholders. Residents hold 55 per cent of outstanding shares (estimated from Capital Flows Account); therefore, the proportionate cost of the dividend tax credit is:

$$[1 - (56.49/69.69)] \times .55 = .104$$

Total potential tax revenue or corporate source income is reduced 10.4 per cent by the dividend tax credit.

Full integration

Full integration reduces total tax revenue from 56.49 to 43.28, a reduction of 23.4 per cent. This loss of revenue applies only to shares held by residents; therefore, the actual effect will be about 13 per cent. Of course, if residents were to increase their holdings of Canadian stocks as a result of full integration, as could be expected, the cost would be higher.

Benefits of the selected tax credits

In order to compare tax expenditures it is necessary to look beyond the cost in terms of reduced tax revenues. The effects on investment, productivity and job creation are also important. For this reason, the beneficiary and the basis of the tax credits must be compared. A brief discussion of the benefits of each of the tax credits follows.

Investment Tax Credit

The Investment Tax Credit benefits the investors in all qualifying new capital investment. Since all investors benefit equally (resident or non-

resident, incorporated or unincorporated), the benefit is capitalized and the user cost of capital declines. This serves as a stimulus to new capital investment. In addition, the cost of equity is levered through the use of debt. By reducing corporate tax payable, the ITC also helps corporate liquidity.

A further benefit is that the tax expenditure is targeted in that it is received only by corporations or individuals who undertake new investment.

Small Business Deduction

As with the ITC, the benefit can be passed through to all investors. Consequently, the user cost of capital declines. It is not targeted on new investment, like the ITC; however, it does aid small business liquidity. Small business is the corporate segment which suffers most from liquidity problems.

Small Business Development Corporation

The primary benefit of the SBDC program is stimulation of equity investment. The investor, not the corporation, receives the credit/grant; however, in order to qualify, the investor must invest in qualifying small business. The effect is that the cost of equity is reduced by up to 30 per cent for business receiving SBDC funds.

Additional benefits, such as experienced managerial input, are also claimed by SBDC program officials.

Small Business Development Bond

Just as the SBDC program reduces the cost of equity, the SBDB program reduces the cost of debt - by as much as 50 per cent. This reduces the user cost of capital to qualifying small businesses (those in financial trouble) and therefore aids liquidity by making funds more affordable.

Dividend Tax Credit

The dividend tax credit is available only to resident shareholders. Since the Canadian-Ontario economies are essentially small and open, the user

cost of capital will not be affected, nor will the benefits be capitalized. Residents may increase their equity holdings, however.

The DTC is unlikely to affect corporate investment, since it is, in effect, a windfall gain to resident shareholders. Any benefits to the economy result from increasing the disposable income of resident investors.

Full integration

The DTC can be considered to be partial integration. The effects of full integration, therefore, differ only in magnitude.

In a small, open economy full integration provides windfall gains to resident shareholders. These gains have no effect on the user cost of capital and hence no direct allocational effects.

TECHNICAL INFORMATION

Exogenous parameters

Tax rates

Three income tax rates and two tax credits are exogenous parameters for the model. The tax rates are the corporate tax rate (default value = 50 per cent), personal tax rate of debt holders (default = 50 per cent), and the personal tax rate of equity holders (default = 50 per cent).

For purposes of the current tax system, the dividend tax credit is exogenous. The default value of 33.33 per cent is the effective rate for Ontario taxpayers, taking into consideration both the federal and implicit provincial dividend tax credits. This value reflects the changes introduced in the November 12, 1981 budget and confirmed by the June 28, 1982 Economic Statement.[3]

An investment tax credit is also built in, although the default value is zero. The effects of utilizing this feature were discussed in the preceding section.

3 Prior to this change, the DTC rate was 36.5 per cent. The federal DTC was 25 per cent. Since Ontario tax was 46 per cent of the federal tax, the effective combined DTC was 25 x 1.46 = 36.5 per cent.

Cost of finance

The cost of finance depends on the proportions of debt, new equity, and retained earnings in the make-up of new investment. The default values are based on data for the 1978 through 1980 period (see Table 11A.23), which indicates that roughly 41 per cent of financing was by debt, 21 per cent by equity, and 38 per cent by retained earnings.

The cost of finance also depends on the required returns and discount rate of investors. The model requires as an exogenous input a required after-tax return for debt holders (default = 2 per cent) and one for equity holders (default = 8 per cent).[4] These values are in real terms, since inflation is not considered by this version of the model.

For the purposes of future value and equivalent annual worth calculations, a separate discount rate is exogenously set. It has a default value of 2 per cent, which equals the required return on debt.

Other parameters

There are six other miscellaneous exogenous parameters:

1. Initial investment can be set at any level desired (the default value is $1,000).

2. The payout ratio is exogenously determined. A default value of 0.5 is used, based on the 1975-78 period. Table 11A.24 indicates that the payout ratio should be data for the range of 0.4 to 0.6.

3. The real depreciation rate is the rate at which additional investment is required to maintain the value of an investment. Its default value is 10 per cent.

4. The capital cost allowance is the permissible write-off for tax purposes. The CCA default value is 30 per cent.

4 The default values are loosely based on data of Table 2 in James E. Pesando, "Valuing Pensions (Annuities) with Different Types of Inflation Protection in Total Compensation Comparisons", NBER, Working Paper No. 956, August 1982.

TABLE 11A.23
Debt, equity, and retained earnings flows. Non-financial private corporations, averages, 1978-80

	Debt	Equity	Retained earnings
Value ($ million)	9,945	5,202	9,053
Proportions	0.41	0.215	0.375

NOTES: This estimate of retained earnings originates in the National Income and Expenditure Accounts. Dividends and charitable contributions are subtracted from corporation profits before taxes. Adjustments are also made for capital assistance (a transfer payment) and inventory valuation changes. The resulting net saving is defined in the Financial Flow Accounts, category 1400. This is the figure we have used to estimate retained earnings. Debt is defined as loans, finance, and other short term paper, mortgages, and bonds. Equity is defined as stocks.

SOURCE: Financial Flow Accounts, Statistics Canada. Fourth Quarter, 1981. Table 2-2, Catalogue 13-002.

5. The number of years in the run can be set at any value up to 10 (default is 10 years).

6. The ratio of retained earnings to capital gains can also be used as an input. A default value of 1.0 is used.

Overrides

Normally, the model sets the return on investment equal to the user cost of capital derived for each tax system. However, this can be changed by either of the two overrides. The return on investment can be set to a specified value. Alternatively, the override can be used to set the return on investment for both the fully integrated system and the current system equal to the user cost of capital of the current system. This makes it convenient to make comparisons under the two systems for identical investments.

The second override can be used to specify the income (dollar value) to be earned under both tax systems. This also can be useful for comparative purposes.

All results discussed in this report are based on runs which hold the return on investment constant. This gives net investor income effects that are consistent with the small, open economy assumptions.

TABLE 11A.24
Dividend payout ratio, all industries, 1975-79

	A Cash and stock dividends	B Net profit after taxes ($ millions)	A ÷ B
1975	6,261.6	14,886.9	.4206
1976	6,469.4	16,217.9	.3989
1977	7,274.4	17,279.9	.4210
1978	13,924.7	23,334.7	.5967
1979	15,136.5	32,403.3	.4671

NOTES: Cash dividends are dividends declared on common and preferred shares and including any liquidating dividends that may have been paid by corporations that were winding up. Interest paid by corporations on income debentures is included in cash dividends. Patronage dividends are not included. Stock dividends are dividends declared whether common or preferred. In prior years, only stock dividends declared in the form of redeemable preferred shares were included here. Net profit after taxes is defined as the net of all book profits and losses reported. It includes non-recurring items and dividends received and is after provision for taxes.

SOURCE: Corporation Financial Statistics, Table 1B 1979, Cat. 61-207.

Calculation methodology

Corporation section (CORPORATION)

1. Total investment (TOTAL INV.)

Total investment is the value of the initial investment. This value is exogenously given, having a default value of $1,000. It is assumed that the initial value of the asset is maintained through the user cost of capital, which allows for sufficient after-tax funds to be generated to replace the real depreciated value of the asset.

2. Debt instruments (DEBT)

The value of debt investment is determined by the 'proportion of debt' parameter, which is exogenous, with a default value of 41 per cent. Initial debt equals the initial total investment multiplied by the proportion of debt. Debt investment remains constant through time.

3. Equity investment (EQUITY)

The initial value of equity investment is the initial total investment multiplied by the 'proportion of equity', which is exogenous, with a default value of 21 percent. As with debt investment, it is constant through time.

4. Retained earnings investment (RET. EARN.)

The initial value of investment funded through retained earnings is determined by multiplying initial total investment by the 'proportion of retained earnings', which is exogenous, with a default value of 38 percent. It is constant through time since retained earnings generated from the return on this investment are assumed to be invested elsewhere - possibly at a different rate of return. (These retained earnings are accounted for by variables 28 and 29 - see below.)

5. Book value (BOOK)

The book value of the investment is the total value of investment net of any investment tax credits less the accumulated capital cost allowance (CCA). It initially equals the total investment, then each year is decreased by CCA and increased by the value of depreciation, which maintains the real value of the investment.

6. Value of Depreciation (DEPRECIATION)

The value of real depreciation is determined by multiplying the value of the total investment by the exogenous real depreciation rate (default value is 10 per cent).

7. Capital Cost Allowance (CCA)

The capital cost allowance is determined by multiplying the book value by the exogenous CCA rate (default value is 30 per cent).

User cost of capital section (COSTS)

The economic and financial literature defines the user cost of capital as the after-tax cost of interest, dividends, and required retained earnings (i.e., capital gains). In effect, this represents the reduction in net after-tax cash flow that results from making the required payments or allocations.

For purposes of TAX-2, two user costs of capital are defined: pre-tax and after-tax user cost of capital. The latter is consistent with the normal definition. The pre-tax cost of capital, which is a primary interest for determining the attractiveness of investment alternatives in light of changes to the tax system, represents the pre-tax return that a new investment must earn in order to be attractive to investors.

8. Cost of debt (DEBT)

The cost of debt is the required rate of return (in real terms) that each dollar of debt investment must realize, before taxes, in order to pay the debt investor the required after-tax return on debt. Since interest payments are tax deductible for the corporation, the before corporate tax and after corporate tax costs of debt are identical. The required after-personal-tax-return is given exogenously, with a default value of 2 per cent. The cost of debt is the same for both the current and the integrated tax systems. It is given by the equation:

$$c_i = [i /(1-t_d)] (1-t_i)$$

where: c_i = cost of debt (required return on investment)

i = required after tax rate of return of debtholder[5]

t_d = marginal tax rate of debtholders[5]

t_i = investment tax credit rate.[5]

5 The required after-tax return of debtholders, the marginal tax rate of debtholders, and the investment tax credit rates are given exogenously. Their default values are 2 per cent, 50 per cent, and zero, respectively.

This treatment of the investment tax credit assumes that, with full integration, the ITC will be allowed to flow through to investors.

9. Cost of equity (EQUITY)

The cost of equity is the required rate of return (in real terms) that each dollar of new equity investment must realize, before taxes, in order to generate sufficient revenue to return to the equity investors their required after-tax real rate of return. This required return is given exogenously and has a default value of 8 per cent.

This calculation depends on the tax system. For the current tax system, the cost of equity is:[6]

$$c_e = [e/(1-t_c)]\ [b/(1-1.5(t_p - t_x)) + (1-b)g/(1-0.5t_p)](1-t_i)$$

where: c_e = cost of equity (required return on investment)

e = required after-tax rate of return of equity holders

t_c = corporate tax rate[7]

b = dividend payout ratio (dividends/income)[7]

t_p = marginal tax rate of equity investors[7]

t_x = dividend tax credit rate[7]

g = the ratio of retained earnings to capital gains[7].

For the fully integrated tax system, the cost of equity is:

$$ce^i = [e/(1-t_p)]\ [b + (1-b)g]\ (1-t_i).$$

6 The formulation of this equation and the other components of the user cost of capital are fully explained in the next section

7 These values are exogenous with the following default values: t_c = 50 per cent; b = 0.5; t_p = 50 per cent; t_x = 33.33 per cent; $g \leq 1$.

The same definitions apply. The equation is simplified: the tax treatments of dividends and capital gains are the same and the corporate tax rate is eliminated.

10. Cost of retained earnings (RET EARN)

The cost of retained earnings is the required rate of return (in real terms) that each dollar of retained earnings investment must realize before taxes. The return must be sufficient to compensate equityholders from the potential earnings on revenues that were forgone due to earnings being retained. Transaction costs are assumed to be zero.

For the current system, the cost of retained earnings is:

$$c_r = [e(1-1.5(t_p-t_x))/(1-t_c)]\ [b/(1-1.5(t_p-t_x))+(1-b)g/(1-0.5t_p)](1-t_i)$$

where: c_r = cost of retained earnings.

Note that $c_r = c_e[1 - 1.5\ (t_p-t_x)]$.

The cost of retained earnings for the fully integrated tax system is:

$$c_r^{\,i} = [e/(1-t_p)]\ [b + (1-b)g](1-t_i).$$

Note that $c_r^{\,i} = c_e^{\,i}$.

The integrated system equation is simplified for the same reasons that the equity equation was simplified.

11. Cost of finance (FINANCE)

The cost of finance is the before-tax required rate of return, in real terms, that each dollar of investment must earn for the investment to be viable.[8] This is the weighted average of the costs of debt, equity, and retained earnings. It is determined as follows:

8 The after-tax cost of finance is defined as the reduction in after-tax income which results from adequately compensating investors, without considering investment credits. Letting this definition be r^*, it is calculated as:

$$r^* = r(1-t_c) / (1-t_i).$$

$$r = p_i c_i + p_e c_e + p_r c_r$$

where: r = cost of finance and

p_i, p_e, p_r = proportions of debt, equity, and retained earnings respectively.

12. Cost of depreciation (DEPREC)

The cost of depreciation is the rate of return that must be earned on the total investment to provide sufficient revenues to maintain constant real investment (i.e., replace real investment). The tax benefit of the CCA must be taken into account in this calculation.

For the current tax system, the cost of depreciation is:

$$c_d = [(d(1-t_i) - t_c\, a(N/I)) / (1-t_c)]$$

where: c_d = cost of depreciation

d = real depreciation rate

N = book value

a = capital cost allowance rate.

For the fully integrated tax system, the cost of depreciation is:

$$c_d^{\,i} = [d(1-t_i) - t_a\, a\, (N/I)]/(1-t_a)$$

where: $t_a = [p_i c_i t_d + (p_e c_e + p_r c_r) t_p] / r.$

13. Cost of disposition (DISP COST)

The full life cycle of the investment must be considered in order to properly account for the effect of the CCA (a tax deferral, not a tax saving). Liquidation of the investment is therefore assumed in the final year. This involves selling assets for an amount equalling the total value of the investment and returning the investment funds to investors. This

has no effect on the calculation of return except for the tax effect. There is a gain on disposition equal to the difference between the investment value and book value on which tax must be paid. This tax is the cost of disposition and equals:

$$c_s = [((I-N)/I)t_c]/(1-t_c) \text{ for the current tax system and}$$

$$c_s^i = [((I-N)/I)t_p]/(1-t_p) \text{ for the fully integrated system}$$

where: c_s = cost of disposition.

14. Before-tax user cost of capital - current (USER C K-C)

The before-tax user cost of capital is the required return on investment to cover financing costs, real depreciation, and the cost of disposition (final year only). It is the sum of the cost of finance and the cost of depreciation as calculated above.

15. Before-tax user cost of capital - cumulative (USER C K-T)

The cumulative cost of capital is the required average annual return that would have to be earned in the first years of an investment to cover the costs of finance and depreciation in those years. It is the equivalent annual worth of the annual USER C K-C values.

Other

16. Investment (INVEST)

This is the same as total investment (item 1), reproduced for convenience.

17. Return on investment (ROI)

The before-tax return on investment normally equals the before-tax user cost of capital as determined earlier for the given tax system. Two overrides are available. Either the user cost of capital determined for the current tax system can be used for both sets of calculations (current tax system and fully integrated tax system) or a specified value can be input.

18. Value of return (RETURN)

The value of the return is simply the investment multiplied by the return on investment.

19. Value of capital cost allowance (CCA)

This CCA is a duplication of the CCA as calculated earlier (item 7). It is reproduced for convenience.

20. Interest payment (INTEREST)

The interest payment is the payment required to provide debtholders with the required after-tax return (e.g., 2 per cent is default value). It is the debt investment multiplied by the cost of debt (see 8 above).

21. Gain on disposition (GN ON DISP)

In the final year, liquidation is assumed at a value equal to the total value of the investment since the funds provided by real depreciation are assumed to be used to maintain the capital stock. There is a taxable gain on the book value on disposition equal to the total value of the investment minus the book value (i.e., real net depreciation value minus book value).

22. Taxable income (NET TXB INC)

Taxable income is the return earned on the investment (18 above) minus the CCA and interest, plus the gain on disposition (zero for all but the final year).

23. Tax payable (TAX)

Tax payable is taxable income multiplied by the corporate tax rate, which is exogenous, with a default value of 50 per cent.

24. After-tax income (AFTER TAX INC)

After-tax income is the real income (not tax accounts) after tax. It equals the return (18 above) minus the after-tax cost of real depreciation, interest payments, and taxes.

25. Required Dividend (REQ DIV)

The required dividends equal the total required return multiplied by the payout ratio, where the total required return equals the required return on new equity investment plus the required return on retained earnings. The total required return is given by:

$$Q = [E(c_e) + R(c_r)]$$

where:

Q = the total required return.

The value of dividends plus capital gains that must be paid out is $Q(1-t_c)$, i.e., the after corporate tax requirement return on equity investment.

26. Actual dividend (DIVIDEND)

The actual dividend is the after-tax income multiplied by the payout ratio, an exogenous parameter with a default value of 0.5.

27. Required capital gain (REQ CAP GAIN)

The required capital gain is the gain that is necessary to fully compensate new equity investment and retained earning investment at the required after-tax rate, given the dividend paid. The required gain equals the total required return multiplied by one minus the payout ratio.

28. Retained earnings - current (RET EARN - CURR)

Retained earnings equal the real after-tax income minus actual dividends (26 above).

29. Retained earning - cumulative (RET EARN-CUM)

This is the sum of retained earnings up to the year being calculated.

30. Economic profit (ECON PROFIT)

Economic profit is after-tax income minus the required dividends and required capital gains multiplied by the retained earnings - capital gain

ratio, which is exogenous with a default value of 1 (i.e., earnings minus the sum of corporate taxes, interest, real depreciation, and the required return on equity).

Shareholders' section

31. Dividend (DIVIDEND)

This dividend is the same as corporate dividends paid (see 26 above). It is reproduced for convenience.

32. Grossed-up dividend value (GROSSED UP)

The grossed-up dividend value is only applicable for the current tax system and equals 1.5 times the dividend paid. This calculation is not applicable (N/A entered) for the fully integrated tax system.

33. Capital gain (CAPITAL GAIN)

The capital gain equals the retained earnings (28 above) divided by the retained earnings - capital gain ratio, which is exogenous, with a default value of 1.

34. Personal taxable income (TAXABLE INC)

Personal taxable income depends on the tax system. With the current system, it is 1.5 times the value of dividends plus one-half of the value of capital gains. With the fully integrated system, taxable income equals corporate income plus the difference between capital gains and retained earnings.

35. Personal tax (TAX)

Personal tax is personal taxable income times the marginal tax rate of equity investors. This tax rate is given exogenously with a default value of 50 per cent.

36. Personal tax credit (TAX CREDIT)

The personal tax credit depends on the tax system. With the current tax system, it is the dividend tax credit, which is 33.33 per cent (default value of dividend tax credit rate) of the grossed-up value of dividends.

With the fully integrated system, the tax credit is tax paid by the corporation (i.e., withholding tax).

37. Net investor tax (NET TAX)

The net tax is the personal tax (35) less the personal dividend tax credits (36).

38. Net personal income (NET INCOME)

Net personal income equals the dividends received plus capital gains minus net personal tax.

39. Total tax revenue of government (TOTAL TAX REV)

The government's total tax revenue is the sum of corporate and personal net tax liabilities.

40. Equivalent annual worth of the cumulative capital gain (EAW TOT CG)

It is assumed that capital gains are deferred with the current tax system. The equivalent annual worth (EAW) of the cumulative capital gain equals the combined value of the deferred capital gains plus the earnings on reinvested retentions. Retained earnings are assumed to earn a return equal to the before-tax rate of return earned on the initial investment. The EAW is determined from these cash flows using the exogenously given discount rate (default value is 2 per cent in real terms).

Since realization is assumed to be deferred, the calculation is made assuming no taxes are paid each year on capital gains. Tax is paid on the cumulative gain (including earnings on retentions) in the year for which the calculation is being made. As a result, the table provides the effect of deferral for any length of time up to the full period considered by the model (maximum of ten years).

In the case of the fully integrated system, it is assumed that capital gains cannot be deferred. A method similar to that of the current tax system it used to calculate the EAW of the capital gains, except that taxes are assumed to be paid prior to reinvestment.

41. Ratio of deferred to undeferred capital gains (DEF/UNDEF C G)

This is the EAW of the deferred capital gains multiplied by one minus half the personal tax rate (i.e., after-tax capital gain when realization is deferred), divided by the EAW of the capital gain if realization, and hence taxes, are not deferred.

THEORETICAL DEVELOPMENT OF THE USER COST OF CAPITAL

As was mentioned previously, the user cost of capital normally reflects the after-tax cost to the corporation of the capital it employs. For purposes of this model, however, the before-tax user cost of capital and after-tax user cost of capital are each considered. Since the purpose of the tax model is to examine the effects of changes in the tax system, the before-tax user cost is used in order to capture corporate tax effects. Although this differs from the conventional definitions of the user cost of capital in both the economic and finance literature, it is totally consistent.

In the discussion that follows, user cost is always the before-tax rate unless otherwise specified.

In the finance literature, the user cost of capital is determined by means of a calculation which is based on assumed values for a required after-tax return to investors. In a large, closed economy it may be reasonable to assume that the supply of funds is highly elastic with respect to this after-tax rate. In this scenario, changes in the tax system will alter the user cost of capital and market rate of interest, while the after-tax required rate remains fixed. This assumption is made for all user cost of capital calculations made by TAX-2. It is best viewed as a polar assumption that measures the maximum potential effect of tax changes on the user cost of capital.

The polar assumption at the other extreme is based on the small, open economy scenario. The market rate of interest is unaffected by domestic changes in the tax system, although the savings patterns of residents may be affected. This scenario assumes that the supply of funds is highly elastic with respect to the before-tax rate of interest.

In order to measure the effect at the latter polar extreme, TAX-2 bases its comparisons of the tax systems on calculations that hold the return on investments fixed to reflect a fixed market rate of interest. This approach provides a measure of the effect on the net investor return

for investors in various tax brackets. The measured effect is best interpreted as representing a windfall given to resident investors which does not get capitalized.

Since the idealized models do not precisely reflect the real world, it is safe to conclude that the actual effects of full integration will be somewhere between the two polar extremes. The benefit of the reduced tax burden will be captured in part by existing investors in the form of capital gains reflecting a decrease in the user cost of capital, and in part by future investors in the form of gains available only to inframarginal resident investors who cannot capitalize the value of the tax change. Since the Canadian-Ontario economies are quite small and open, the effect of integration in Canada is likely to be quite close to the latter polar case.

The user cost of capital - existing tax system

The before-tax user cost of capital is the expected rate of return that a firm must earn on new investments in order to be able to attract capital. The return must compensate all investors and cover depreciation; hence, it is the required rate of return before depreciation, interest, and income taxes.

In the absence of taxes, the user cost of capital, u_k, on a new investment equals the cost of finance, f, plus the real depreciation rate, d. That is,[9]

$$u_k = f + d. \qquad (1)$$

The cost of finance is the weighted average of the marginal costs of debt, i, of equity, e, and of retained earnings, r, to the firm where the proportions of debt, equity, and retained earnings are p_i, p_e, and p_r respectively. The user cost of capital can be rewritten reflecting this breakdown of the cost of finance:

$$u_k = p_i i + p_e e + p_r r + d. \qquad (2)$$

The terms i, e, and r are assumed to be the actual after-tax returns that investors require and d is the real depreciation rate; hence, the term u_k

9 For simplicity, time subscripts are assumed throughout but not shown.

is the actual return that must be earned in order for all investors to realize their required return in the absence of taxes and transaction costs.

Taxes can be introduced and the effects determined for each term in turn. Let the corporate tax rate, the personal marginal tax rate of equity investors, and the personal marginal tax rate of debt investors be represented by t_c, t_p, and t_d, respectively.

Effects of taxes on the cost of debt[10]

Interest on debt is paid by the firm out of pre-tax dollars, but investors must pay taxes on interest received; hence, the cost of debt to the firm is:

$$i/(1-t_d). \qquad (3)$$

This represents the income that the firm must earn above operating costs in order to pay debtholders enough in dividends so that they will earn a rate of return, i, after taxes.

The cost depends on the marginal tax rate of debtholders and on whether or not they anticipate total interest income to be less than $1,000 (if so, $t_d = 0$).

Effect of taxes on the cost of new equity

The return of new equity is earned by an investor through a combination of dividends and capital gains. The return that must be earned by the firm in order to pay equity investors enough for them to realize an after-tax return of e is:

i) $e/((1-t_c)\ [1 - 1.5(t_p-t_x)])$, if the return is realized totally by means of dividends, assuming dividends are grossed up by 50 per cent as per current personal tax law (t_x is the dividend tax credit rate);

10 This formulation assumes that the investment does not qualify for an investment tax credit. An investment tax credit of t_i reduces the effective capital required for the investment by a factor of $(1-t_i)$. This reduces the cost of finance and the real depreciation component of the cost of depreciation by the same factor.

ii) $ge/[(1-t_c)\ (1 - 0.5\ t_p m)]$, if the return is realized totally by means of capital gains, assuming the capital gain equals the retained earnings (m is the effective reduction of the personal tax rate on capital gains due to deferral of realization, $(0 < m < 1)$, and g is the ratio of the value of retained earnings to capital gains);

iii) $[e/(1-t_c)]\ (b/[1 - 1.5(t_p-t_x)] + (1-b)g/[1 - 0.5\ t_p m])$, if the return is realized through a combination of dividends and capital gains (b is the dividend ratio).[11]

For the marginal investor, the required return (i.e., discount rate for deferred capital gains) exactly equals the expected after-tax return of deferring the capital gains. Both rates are e. As a result, m = 1 for the marginal investor. Since only the marginal investor is of concern for determining security prices, m is assumed to equal one for the remainder of the analysis; hence, the cost of new equity is:

$$[e/(1-t_c)]\ (b/[1-1.5(t_p-t_x)] + (1-b)g/[1-0.5t_p]). \qquad (4)$$

Of course, all non-marginal investors holding the security value the security above its market value. For them, the expected return exceeds the required return; hence, $m < 1$, which implies that it pays them to defer realization of their capital gain.

Interestingly, the firm may minimize the cost of capital by retaining earnings to reinvest even at a rate below the marginal cost of equity. This will occur if the capital gains cost of equity is less than the retained earnings cost of equity. To illustrate this, let the ratio of the capital gains to retained earnings be represented by h; that is, $h = c/v$ where c is the capital gain (rate of return) and v is the retained earnings (rate of return). Since investors require that $c = e/[(1-t_c)\ (1-0.5\ t_p)]$ (assuming all earnings are retained for simplicity), it follows that:

$$v = e/[h(1-t_c)\ (1-0.5\ t_p)].$$

11 With $t_x = .25$, it can be shown that the dividend cost of equity equals the retained earning cost of equity (assuming capital gains equal retained earnings) if $m = 3 - (1.75/t_p)$. Since $0 \leq m \leq 1$, hence $.25 \leq t_p \leq .375$ for indifference. This implies that for any value of m,

The firm is indifferent between paying dividends and retaining earnings when the dividend cost of equity and the retained earnings cost of equity are equal. That is, when:

$$[e/[(1-t_c)\ (1 - 1.5(t_p - t_x))] = eg/[h(1-t_c)\ (1 - 0.5\ t_p)].$$

Hence,

$$h = g[1 - 1.5(t_p - t_x)] / [1 - 0.5\ t_p]. \qquad (5)$$

This implies that $h < 1$ if the capital gains cost of equity is less than the dividend cost of equity. If $h < 1$, firms will retain earnings and reinvest at a rate of return below the marginal cost of equity capital; hence, the capital gain will be less than retained earnings.

The effect of taxes on the cost of retained earnings capital

In order to make it attractive to investors to invest by allowing earnings to be retained, the firm must earn enough on the new investment that the investor earns his required rate of return, $r = e$, on the after-tax dividend that he could have received.

As in the previous section, the return on the equity investment will be a combination of increased dividends and increased capital gains.

For each dollar of retained earnings which the firm retains to invest, the investor could have received $[1 - 1.5(t_p - t_x)]$ in dividends. The investor must receive his required rate of return, $r = e$, on this amount. The cost to the firm is the same as the cost of new equity, except for this difference between dividends forgone and retained earnings held by the firm. Hence, the retained earnings cost of capital is:

$$[e[1-1.5(t_p-t_x)]/(1-t_c)]\ \ (b/[1-1.5(t_p-t_x)] + (1-b)g/[1-0.5\ \ t_p]) \qquad (6)$$

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capital gains are preferred by any investor with a marginal tax rate above 37.5 per cent. Similarly, dividends will be preferred by any investor with a marginal tax rate below 25 per cent regardless of the value of m.

4. The effect of taxes on the depreciation component

A tax effect arises due to the difference between the real depreciation rate and the capital cost allowance (CCA).

Conceptually, earning an after-tax return of r + d allows the firm to keep the capital intact; hence, the equity remains constant for all years (the investment has an infinite time horizon). When a CCA rate of 'a' is introduced, however, its value is based on a net asset value different from the initial investment. Further, if the full CCA value is used to augment the depreciated asset value, then the real value of the investment actually will increase over time due to the accelerated capital cost allowance.

As a result, depreciation can be viewed as being recovered from post-tax dollars and the CCA can be viewed as providing a separate tax saving. It is easiest to look at absolute values rather than rates initially. That is, for an investment I, the depreciation cost to the firm is:

$$[dI/(1-t_c)] - [t_c\ a\ N/(1-t_c)] \qquad (7)$$

where I is the true net asset value (constant through time) and N is the book value using the CCA, assuming reinvestment to maintain the real asset value.

If time is explicitly considered, then at time = 0, $N_o = I$. Therefore,

$$N_t = (1-a)N_{t-1} + d\ I.$$

Substituting in and converting equation (7) to a rate by dividing through by I gives:

$$[d/(1-t_c)] - t_c a[((1-a)\ N_{t-1}/I) + d]/(1-t_c). \qquad (8)$$

This implies that the year-by-year required earnings vary; however, for a given time horizon, this stream can be converted to an equivalent annual worth. In addition, the required earnings asymptotically approach a stable value where N = (d/a)I.

Summary - current tax system

Equation (2) can now be expanded by substitution of (3), (4), (6), and (8) into (2). The result is:

$$u_k = p_i\,[i/(1-t_d)] + p_e\,[e/(1-t_c)]\,(b/[1-1.5(t_p-t_x)] + (1-b)g/[1-0.5t_p]) + p_r\,(e[1-1.5(t_p-t_x)]/(1-t_c))\,(b/[1-1.5(t_p-t_x)]+(1-b)g/[1-0.5t_p]) + [d - t_c\,a(N_t/I)]/(1-t_c)$$

This can be solved on a year-by-year basis (changes due to N_t) by substituting in values for the proportions (p_i, p_e, and p_r), the marginal tax rates of marginal investors (t_d and t_p), the corporate tax rate (t_c), the payout ratio (b), the effective tax reduction factor (m), the depreciation rate (d) and CCA (a), and the book value/asset value ratio in each year (N_t/I).

Modifying this formulation of the user cost of capital to take into account the investment tax credits, t_i, gives:

$$u_k i = p_i\,[i/(1-t_d)]\,(1-t_i) + p_e\,[e/(1-t_c)]\,(b/[1-1.5(t_p-t_x)] + (1-b)g/[1-0.5t_p])\,(1-t_i) + p_r\,(e[1-1.5(t_p-t_x)]/(1-t_c))\,(b/[1-1.5(t_p-t_x)]+(1-b)g/[1-0.5t_p])(1-t_c) + [d(1-t_c) - t_c\,a(N_t/I)]/(1-t_c).$$

The user cost of capital - integrated tax system

A parallel equation for the user cost of capital can be derived for an integrated corporate and personal tax system by substituting appropriate terms into equation (2) in the previous subsection.

For simplicity, the withholding aspect of the system is not explicitly considered. Only the net effect - the attribution of corporation earnings to the investor - is considered.

Effect of taxes on the cost of debt

It is assumed that, with an integrated tax system, bond interest is paid out of pre-tax income and that bondholders must pay tax on interest income. Therefore, the effect of taxes on the cost of debt is the same as with the current tax system; i.e., it is:

$$i/(1-t_d). \qquad (3a)$$

Effect of taxes on the cost of new equity

The cost of new equity to the firm is:

$$e / (1-t_p)$$

if the return is realized totally by means of dividends (this assumes that dividends received are not added to personal taxable income, since total corporate income is);

$$eg/ (1-t_p)$$

if the return realized totally by means of capital gains (this assumes that capital gains are not taxed);

$$e [b + (1-b)g] / (1-t_p) \qquad (4a)$$

if the return is realized through a combination of dividends and capital gains, since the effective tax is the same for both dividends and capital gains.

Note that with full integration, capital gains would be taxed to the extent that they exceed the investor's share of retained earnings. It is assumed, however, that capital gains do not surpass the value of retained earnings. This should provide an adequate estimate of the cost of new equity.

Effect of taxes on the cost of retained earnings capital

With an integrated tax system, the earnings retained by the firm will exactly equal the after-tax dividends forgone by the investor - unlike the current situation. The required return, r = e, of the investor is a combination of increased future dividends and increased capital gains; hence, the retained earnings cost of capital is the same as that on new equity. That is:

$$e [b + (1-b)g / (1-t_p). \qquad (6a)$$

The effect of taxes on the depreciation component

The depreciation is unaffected by the tax system in place, except that the marginal tax rate may differ (t_p instead of t_c). For an integrated system, the depreciation cost to the firm is:

$$[d - t_p \, a \, (N_t/I)] \, / \, (1-t_p) \qquad (8a)$$

Summary of the integrated tax system

Equation (2) can now be expanded by substitution of (3a), (4a), (6a), and (8a) into (2). The result is:

$$\begin{aligned} u_k = {} & p_i \, i/(1-t_d) \\ & + (p_e + p_r) \, [e(b + (1-b)g)] \, /(1-t_p) \\ & + [d - t_p \, a \, (N_t/I)] \, / \, (1-t_p). \end{aligned}$$

Modifying this formulation of the user cost of capital to take into account the investment tax credit gives:

$$\begin{aligned} u_k = {} & p_i \, [i/(1-t_d)] \, (1-t_i) \\ & + (p_e + p_r) \, [(e \, (b + (1-b)g)) \, / \, (1-t_p)] \, (1-t_i) \\ & + [d \, (1-t_i) - t_p \, a \, (N_t/I)] \, / \, (1-t_p). \end{aligned}$$

Definitions, in order of appearance

u_k	- user cost of capital
f	- cost of finance
d	- real depreciation rate
p_c, p_e, p_r	- proportions of debt, equity, and retained earnings, respectively, with no taxes or transaction costs (after-tax required return of investors)
i,e,r	- marginal cost of debt, equity, and retained earnings, respectively, with no taxes or transaction costs (after-tax required return of investors)
t_c, t_p, t_d	- marginal tax rates of corporations, equity holders, and debt holders, respectively

t_i	- investment tax credit rate
t_x	- dividend tax credit rate
m	- the effective proportion of reduction of the personal tax rate on capital gains due to deferral of realization
g	- ratio of retained earnings to capital gains
b	- the dividend ratio
c,v	- the expected capital gain and expected retained earning rates, respectively
h = c/v	- the expected capital gain and expected retained earning rates, respectively
a	- capital cost allowance
I	- initial investment
N	- book value (CCA depreciation with real capital value maintained)

SAMPLE OUTPUT

Parameter values this run:

Tax Rates:	Corporate	50.00%
	Personal (Debt)	50.00%
	Personal (Equity)	50.00%
	Dividend Credit	33.33%
	Investment Credit	0.00%
Cost of Finance:	Proportion of Debt	41.00%
	Proportion of Equity	21.00%
	Proportion of Retained Earnings	38.00%
	After-tax Required Return (Debt)	2.00%
	After-tax Required Return (Equity)	8.00%
	Discount Rate of Shareholders	2.00%

Other Parameters:	Initial Investment	$1000.00
	Payout Ratio	0.50%
	Real Depreciation Rate	10.00%
	Capital Cost Allowance	30.00%
	Number of Years	10.00%
	Ratio: Ret. Earnings / Cap. Gains	1.00%
Overrides:	Return on Investment	Normal
	Income	Normal

TABLE 11A.25
Dynamic calculation of tax effects - current tax system

Year	1	2	3	4	5	6	7	8	9	10
Corporation										
Total inv.	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
Debt	410.00	410.00	410.00	410.00	410.00	410.00	410.00	410.00	410.00	410.00
Equity	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00
Ret earn	380.00	380.00	380.00	380.00	380.00	380.00	380.00	380.00	380.00	380.00
Book	1000.00	800.00	660.00	562.00	493.40	445.38	411.77	388.24	371.77	360.24
Depreciation	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
CCA	300.00	240.00	198.00	168.60	148.02	133.61	123.53	116.47	111.53	108.07
Costs										
Debt (%)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Equity (%)	21.33	21.33	21.33	21.33	21.33	21.33	21.33	21.33	21.33	21.33
Ret earn (%)	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
Finance (%)	12.20	12.20	12.20	12.20	12.20	12.20	12.20	12.20	12.20	12.20
Deprec (%)	-10.00	-4.00	0.20	3.14	5.20	6.64	7.65	8.35	8.85	9.19
Disp cost (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User C K-C(%)	2.20	8.20	12.40	15.34	17.40	18.84	19.85	20.55	21.05	85.37
User C K-T(%)	2.20	5.17	7.53	9.43	10.96	12.21	13.24	14.09	14.80	21.25
Other										
Invest	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
ROI(%)	2.20	8.20	12.40	15.34	17.40	18.84	19.85	20.55	21.05	85.37
Return	22.00	82.00	124.00	153.40	173.98	188.39	198.47	205.53	210.47	853.69
CCA	300.00	240.00	198.00	168.60	148.02	133.61	123.53	116.47	111.53	108.07
Interest	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40
GN on disp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	639.76
Net txb inc	-249.40	-174.40	-90.40	-31.60	9.56	38.37	58.54	72.66	82.54	1368.99
Tax	-147.20	-87.20	-45.20	-15.80	4.78	19.19	29.27	36.33	41.27	684.49
Aftertax inc	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80
Req div	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Dividend	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Req cap gain	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Ret earn-curr	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Ret earn-cum	26.40	52.80	79.20	105.60	132.00	158.40	184.80	211.20	237.60	264.00
Econ profit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 11A.25, continued

Year	1	2	3	4	5	6	7	8	9	10
Shareholder										
Dividend	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Grossed-up	39.60	39.60	39.60	39.60	39.60	39.60	39.60	39.60	39.60	39.60
Capital gain	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Taxable inc	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80
Tax	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Tax credit	13.20	13.20	13.20	13.20	13.20	13.20	13.20	13.20	13.20	13.20
Net tax	13.20	13.20	13.20	13.20	13.20	13.20	13.20	13.20	13.20	13.20
Net income	39.60	39.60	39.60	39.60	39.60	39.60	39.60	39.60	39.60	39.60
Total tax rev	-134.00	-74.00	-32.00	-2.60	17.98	32.39	42.47	49.53	54.47	697.69
At EAW tot CG	19.80	19.90	20.01	20.11	20.22	20.33	20.44	20.55	20.66	20.78
Def/Undef C G	1.00	1.00	1.01	1.01	1.02	1.02	1.02	1.03	1.03	1.04

TABLE 11A.26
Dynamic calculation of tax effects - fully integrated tax system

Year	1	2	3	4	5	6	7	8	9	10
Corporation										
Total inv.	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
Debt	410.00	410.00	410.00	410.00	410.00	410.00	410.00	410.00	410.00	410.00
Equity	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00	210.00
Ret earn	380.00	380.00	380.00	380.00	380.00	380.00	380.00	380.00	380.00	380.00
Book	1000.00	800.00	660.00	562.00	493.40	445.38	411.77	388.24	371.77	360.24
Depreciation	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
CCA	300.00	240.00	198.00	168.60	148.02	133.61	123.53	116.47	111.53	108.07
Costs										
Debt (%)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Equity (%)	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
Ret earn (%)	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
Finance (%)	11.08	11.08	11.08	11.08	11.08	11.08	11.08	11.08	11.08	11.08
Deprec (%)	-10.00	-4.00	0.20	3.14	5.20	6.64	7.65	8.35	8.85	9.19
Disp cost (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63.98
User C K-C(%)	1.08	7.08	11.28	14.22	16.28	17.72	18.73	19.43	19.93	84.25
User C K-T(%)	1.08	4.05	6.41	8.31	9.84	11.09	12.12	12.97	13.68	20.13
Other										
Invest	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
ROI(%)	2.20	8.20	12.40	15.34	17.40	18.84	19.85	20.55	21.05	85.37
Return	22.00	82.00	124.00	153.40	173.98	188.39	198.47	205.53	210.47	853.69
CCA	300.00	240.00	198.00	168.60	148.02	133.61	123.53	116.47	111.53	108.07
Interest	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40	16.40
GN on disp	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	639.76
Net txb inc	-294.40	-174.40	-90.40	-31.60	9.56	38.37	58.54	72.66	82.54	1368.99
Tax	-147.20	-87.20	-45.20	-15.80	4.78	19.19	29.27	36.33	41.27	684.49
Aftertax inc	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80
Req div	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60
Dividend	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Req cap gain	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60
Ret earn-curr	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Ret earn-cum	26.40	52.80	79.20	105.60	132.00	158.40	184.80	211.20	237.60	264.00
Econ profit	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60

TABLE 11A.26, continued

Year	1	2	3	4	5	6	7	8	9	10
Shareholder										
Dividend	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Grossed-up	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Capital gain	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40
Taxable inc	-294.40	-174.40	-90.40	-31.60	9.56	38.37	58.54	72.66	82.54	1368.99
Tax	-147.20	-87.20	-45.20	-15.80	4.78	19.19	29.27	36.33	41.27	684.49
Tax credit	-147.20	-87.20	-45.20	-15.80	4.78	19.19	29.27	36.33	41.27	684.49
Net tax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net income	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80
Total tax rev	-147.20	-87.20	-45.20	-15.80	4.78	19.19	29.27	36.33	41.27	684.49
At EAW tot CG	26.40	25.45	24.54	23.67	22.84	22.04	21.27	20.53	19.82	19.14
Def/Undef C G	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 11A.27
Summary table - actuals

Year 10	Current		Fully integrated		Per cent change	
	Final year	EAW	Final year	EAW	Final year	EAW
Corporation						
Total inv.	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
Debt	410.00	410.00	410.00	410.00	0.00	0.00
Equity	210.00	210.00	210.00	0.00	210.00	0.00
Ret earn	380.00	380.00	380.00	0.00	380.00	0.00
Book	360.24	559.89	360.24	559.89	0.00	0.00
Depreciation	100.00	100.00	100.00	100.00	0.00	0.00
CCA	108.07	167.97	108.07	167.97	0.00	0.00
Costs						
Debt (%)	4.00	4.00	4.00	4.00	0.00	0.00
Equity (%)	21.33	21.33	16.00	16.00	-25.00	-25.00
Ret earn (%)	16.00	16.00	16.00	16.00	0.00	0.00
Finance (%)	12.20	12.20	11.08	11.08	-9.18	-9.18
Deprec (%)	9.19	3.20	9.19	3.20	0.00	0.00
Disp cost (%)	63.98	5.84	63.98	5.84	0.00	0.00
User C K-C (%)	85.37	21.25	84.25	20.13	-1.31	-5.27
User C K-T (%)	21.25	N/A	20.13	N/A	-5.27	N/A
Other						
Invest	1000.00	1000.00	1000.00	1000.00	0.00	0.00
ROI (%)	85.37	21.25	85.37	21.25	0.00	0.00
Return	853.69	212.46	853.69	212.46	0.00	0.00
CCA	108.07	167.97	108.07	167.97	0.00	0.00
Interest	16.40	16.40	16.40	16.40	0.00	0.00
GN on disp	639.76	58.43	639.76	58.43	0.00	0.00
Net txb inc	1368.99	86.52	1368.99	86.52	0.00	0.00
Tax	684.49	43.26	684.49	43.26	0.00	0.00
Aftertax inc	52.80	52.80	52.80	52.80	0.00	0.00
Req div	26.40	26.40	23.60	23.60	-10.61	-10.61
Dividend	26.40	26.40	26.40	26.40	0.00	0.00
Req cap gain	26.40	26.40	23.60	23.60	-10.61	-10.61
Ret earn-curr	26.40	26.40	26.40	26.40	0.00	0.00
Ret earn-cum	264.00	N/A	264.00	N/A	0.00	N/A
Econ profit	0.00	0.00	5.60	5.60	********	********

Table 11A.27, continued

Year 10	Current		Fully integrated		Per cent change	
	Final year	EAW	Final year	EAW	Final year	EAW
Shareholder						
Dividend	26.40	26.40	26.40	26.40	0.00	0.00
Grossed-up	39.60	39.60	N/A	N/A	N/A	N/A
Capital gain	26.40	26.40	26.40	26.40	0.00	0.00
Taxable inc	52.80	52.80	1368.99	86.52	2492.79	63.87
Tax	26.40	26.40	684.49	43.26	2492.79	63.87
Tax credit	13.20	13.20	684.49	43.26	5086.10	227.77
Net tax	13.20	13.20	0.00	0.00	-100.00	-100.00
Net income	39.60	39.60	52.80	52.80	33.34	33.34
Total tax rev	697.69	56.46	684.49	43.26	-1.89	-23.38
At EAW tot CG	20.78	N/A	19.14	N/A	-7.86	N/A
Def/Undef C G	1.04	N/A	0.00	N/A	-100.00	N/A

Appendix 11B
After-tax returns to resident shareholders with marginal tax rates of 30 and 50 per cent; alternative payout rates, with and without deferral of capital gains

TABLE 11B.1
After-tax return to resident shareholders from $100 corporate source income net of corporate tax of 50 per cent without deferral, existing and full credit systems for shareholders, marginal rate = 30 per cent

	Dividend ratios					
	10:0	8:2	6:4	4:6	2:8	0:10
Existing system						
No deferral						
1. Dividend	100.00	80.00	60.00	40.00	20.00	ø
2. (1) x 1.50	150.00	120.00	90.00	60.00	30.00	ø
3. Tax = (2) x 0.30	45.00	36.00	27.00	18.00	9.00	ø
4. Credit (2) x 1/3	50.00	40.00	30.00	20.00	10.00	ø
5. Net tax (3) - (4)	(5.00)	(4.00)	(3.00)	(2.00)	(1.00)	ø
6. Capital gain (retention)	ø	20.00	40.00	60.00	80.00	100.00
7. Tax = (6) x 0.50 x 0.30	ø	3.00	6.00	9.00	12.00	50.00
8. Total net tax (5) + (7)	(5.00)	(1.00)	(3.00)	(7.00)	(11.00)	(15.00)
9. After-tax return (1)+(6)-(8)	105.00	101.00	97.00	93.00	89.00	85.00
Full credit system						
10. Attributed income 2x(1+6)	200.00	200.00	200.00	200.00	200.00	200.00
11. Tax = (10) x .30	60.00	60.00	60.00	60.00	60.00	60.00
12. Credit (10) x .50	100.00	100.00	100.00	100.00	100.00	100.00
13. Net tax	(40.00)	(40.00)	(40.00)	(40.00)	(40.00)	(40.00)
14. After-tax return (1)+(6)-(13)	140.00	140.00	140.00	140.00	140.00	140.00
15. % difference 100x(14)/(9)	33.33	38.61	44.33	50.54	57.30	64.71

TABLE 11B.1, continued

	Dividend ratios					
	10:0	8:2	6:4	4:6	2:8	0:10
Existing system						
No deferral						
16. After-tax return (9)	105.00	101.00	97.00	93.00	89.00	85.00
Deferred 10 years						
17. Capital gain (6)	ø	20.00	40.00	60.00	80.00	100.00
18. Future value @ 10%	ø	51.87	103.75	153.62	207.50	259.37
19. After-tax (18) x 0.85	ø	44.09	88.19	132.28	176.38	220.46
20. Present value of (19) @ 7%	ø	22.41	44.83	67.24	89.65	112.06
21. After-tax capital gain with no deferral (6) - (7)	ø	17.00	34.00	51.00	68.00	85.00
22. Increase by deferral (20) - (21)	ø	5.41	10.83	16.24	21.65	27.06
23. After-tax return with deferral (16) + (22)	105.00	106.41	107.83	109.24	110.65	112.06
24. % difference 100 x (14)/(23)	33.33	31.57	29.83	28.16	26.53	24.93

TABLE 11B.2
After-tax return to resident shareholders from $100 corporate source income net of corporate tax of 50 per cent with and without deferral, existing and full credit systems for shareholders marginal rate = 50 per cent

	Dividend ratios					
	10:0	8:2	6:4	4:6	2:8	0:10
Existing system						
No deferral						
1. Dividend	100.00	80.00	60.00	40.00	20.00	ø
2. (1) x 1.50	150.00	120.00	90.00	60.00	30.00	ø
3. Tax = (2) x .50	75.00	60.00	45.00	30.00	15.00	ø
4. Credit (2) x 1/3	50.00	40.00	30.00	20.00	10.00	ø
5. Net tax (3) - (4)	(25.00)	(20.00)	(15.00)	(10.00)	(5.00)	ø
6. Capital gain (retention)	ø	20.00	40.00	60.00	80.00	100.00
7. Tax = (6) x 0.50 x 0.50	ø	5.00	10.00	15.00	20.00	25.00
8. Total net tax (5) + (7)	(25.00)	(25.00)	(25.00)	(25.00)	(25.00)	(25.00)
9. After-tax return (1)+(6)-(8)	75.00	75.00	75.00	75.00	75.00	75.00
Full credit system						
10. Attributed income 2x(1+6)	200.00	200.00	200.00	200.00	200.00	200.00
11. Tax = (10) x .50	100.00	100.00	100.00	100.00	100.00	100.00
12. Credit (10) x .50	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
13. Net tax	ø	ø	ø	ø	ø	ø
14. After-tax return (1)+(6)-(13)	100.00	100.00	100.00	100.00	100.00	100.00
15. % difference 100x(14)/(9)	33.33	33.33	33.33	33.33	33.33	33.33

TABLE 11B.2, continued

	Dividend ratios					
	10:0	8:2	6:4	4:6	2:8	0:10
Existing system						
No deferral						
16. After-tax return (9)	75.00	75.00	75.00	75.00	75.00	75.00
Deferred 10 years						
17. Capital gain (6)	ø	20.00	40.00	60.00	80.00	100.00
18. Future value @ 10%	ø	51.87	103.75	153.62	207.50	259.37
19. After-tax (18) x 0.75	ø	38.90	77.81	115.22	155.62	194.53
20. Present value of (19) @ 5%	ø	23.88	47.77	70.73	95.54	119.42
21. After-tax capital gain with no deferral (6) - (7)	ø	15.00	30.00	45.00	60.00	75.00
22. Increase by deferral (20) - (21)	ø	8.88	17.74	25.73	35.53	44.42
23. After-tax return with deferral (16) + (22)	75.00	83.88	92.74	100.73	110.53	119.42
24. % difference 100x(14)/(23)	33.33	19.22	7.83	(0.72)	(9.53)	(16.26)

Appendix 11C
Some practical problems of PIT-CIT integration

Several significant administrative problems could arise with respect to the adoption of a full credit treatment of Canadian corporate source income attributable to Canadian residents. Lest the impression be given that full integration is as simple in practice as it is in concept, these problems should be borne in mind.

Dividend relief has been adopted in several European countries including West Germany, which gives complete relief from double taxation. Although these systems do not constitute full integration, it will be useful to examine them in order to see how other jurisdictions have grappled with administrative problems.

The integration problems to be addressed include, among others, those caused by intercorporate dividends, corporate tax concessions, and different classes of stock.[1] In addition, some of the opposition to the Carter Commission's integration proposal is considered. This is instructive in illuminating some of the concerns raised by integration.

EUROPEAN EXPERIENCE

The Europeans have implemented dividend relief rather than full integration. Often a precompte or advance corporation tax is employed that allows the shareholder to use a standard gross-up rate.

France allows partial relief from double taxation of dividends. An avoir fiscal/tax credit of 50 per cent is allowed after a gross-up of the same amount, which is available only for residents of France. A supplementary tax, commonly called a precompte, is levied on dividends that did

1 Much of the following discussion of these problems is taken from the 1979 book, Must Corporate Income Be Taxed Twice? by Charles McLure (Washington, D.C.: The Brookings Institution).

not bear full corporate tax, though this is still only 33-1/3 per cent, compared with the statutory rate of 50 per cent. The overall effect in the case of income taxed preferentially at the corporate level is to wash out the preferences to the extent income is distributed to the shareholders. Thus, the full effect of the tax concessions is gained only to the extent that the income receiving preferential treatment is retained.

Given the difference in treatment of tax concessions between retained and distributed earnings, allocation rules are needed. Generally, dividends are attributed first to fully taxed current earnings, then to fully taxed earnings of the four previous years (on a FIFO basis), and finally to earnings on which the precompte is due.

In Britain, the payment of dividends creates liability for payment of an advance corporation tax. For a corporation with only taxable income, the ACT serves merely as a withholding tax against the ultimate corporate income tax liability. If full corporate tax has not been paid, the ACT serves much the same purpose as the precompte in the French system. ACT can only be offset against income on which tax has been paid. This ensures that all distributed income bears a tax of at least 30 per cent and possibly more, depending on the shareholder's marginal tax rate.

West Germany has moved to eliminate double taxation of dividends. Basic corporate tax is levied at a rate of 56 per cent, which is reduced to 36 per cent when income is distributed. The taxpayer grosses up a dividend by 36/64 and takes a credit for the same amount. Like the French and the British, the West Germans wanted to allow relief from double taxation only to the extent double tax was paid. West German corporations are supposed to establish three 'available net equity' accounts, in which they enter earnings available for distribution. These accounts contain (1) amounts that have borne the full 56 per cent corporate tax rate; (2) amounts that have been taxed at 36 per cent; and (3) amounts that have borne no tax. Dividends are assumed to have come first from the 56 per cent account and then from the 36 per cent. Therefore, tax concessions are maintained only to the extent that they do not exceed retained earnings.

The two primary problems encountered in dividend relief are (1) informing the shareholder of the proper gross-up and credit; and (2) maintaining proper accounts at the corporate level, especially in identifying income as fully taxable or concessionary. The former problem is minimized if a fixed gross-up and credit is used, and the latter if concessions are

stacked last against retentions. If concessions are stacked last, for most firms they will be left in the retained earnings. In many instances, this procedure could obviate the need for the firm to calculate its economic as well as its taxable income. In a system of dividend relief, this advantage greatly eases the administrative difficulties if the income distributed was generally treated uniformly. It would ease problems connected with amended returns, audit adjustments, and timely information for the shareholder, as the chances are lessened that a recalculation would have to be undertaken based on a different type of income. Similarly, intercorporate dividend problems should work out more smoothly, since the need to identify different streams of income would be eliminated in most cases. Thus, it can be seen that France, Britain, and West Germany have chosen schemes administratively simpler than full integration.

The European countries just discussed differ from Canada in their practical application of dividend relief in that they prevent relief from corporate tax not actually paid, whereas Canada provides a gross-up and credit without regard to whether any corporate income tax has been paid.

It would appear to be counterproductive to offer tax concessions at the corporate level only to have them negated by the tax treatment of shareholders. However, the primary problems in accounting for tax concessions under full integration would likely be of an administrative nature related to sorting out the various sources of income.

TREATMENT OF CORPORATE TAX CONCESSIONS

By the nature of integration, various types of income must retain their identity in the hands of shareholders. Using a standard gross-up and credit would produce personal tax liabilities that would be too high at the top of the income scale and too low at the bottom. To rectify this, the gross-up must include the corporate tax actually paid as if there were no tax preferences. However, deductible concessions must be subtracted from the amount of the tax in computing the gross-up if they are to pass through to the shareholders.

Therefore, a uniform gross-up cannot be applied directly to net corporate income if the tax concessions are to be passed through, since (1) the amount by which income must be grossed up depends on the split between deductible and creditable concessions; and (2) the same amount is not generally used in grossing-up income and taking credit at the share-

holder level.

From a policy point of view, it would probably be best to treat all concessionary income equally and to avoid washing out concessions with dividends. The latter approach would eliminate concessions that presumably had some policy rationale behind them. However, from an administrative point of view, the most complicated approach allows a pass-through of preferences and does not stack preferences against retentions.

Tax concessions could be allocated proportionally between retained earnings and distributions or even allocated completely in retained earnings, assuming sufficient earnings were retained. The latter approach would also involve stacking rules to ensure that concessionary income was kept in retained earnings. This would not eliminate the need for a variable gross-up, since attributions would still be made to the shareholder from retained earnings, though a uniform gross-up could be applied to distribution. This would differentiate it from the dividend relief schemes discussed before, which allocate concessionary income to retained earnings. In that case, since the gross-up would be only on dividends, the problems of a variable gross-up (determining the amount of deductible and creditable concessions) would be avoided.

INTERCORPORATE DIVIDENDS

Dividends travelling through several corporations before being distributed to an individual also present problems if concessionary income is to be passed through. This question would appear to be wrapped up with the issues, discussed above, of separating and identifying different sources of income. If these operations are to be performed, the administrative difficulties multiply with each corporate layer. The need, discussed below, to designate a shareholder of record for the year would also appear to be accentuated by multiple corporate levels.

DIFFERENT CLASSES OF STOCKS

Under integration, an extremely thorny problem arises if a corporation has different classes of stocks. For instance, a corporation could have both common and preferred stocks and alternative years of income and no income.[2] In the first year, common shareholders would include in taxable

2 This example is from McLure, 165.

income their portion of corporate income after payments on the preferred shares and write up the basis of the shares by the same amount. Owners of preferred stock would pay tax on their dividends. In the second year, dividends would be paid to owners of preferred shares - income which by implication originated in retained earnings and had already been taxed to the common shareholders. The previous attribution to common shareholders would have to be reversed, possibly by allowing a deduction for dividends on preferred shares. This could create losses for common shareholders, creating problems which will be discussed later.

Under dividend relief, different classes of stock may not cause problems as insurmountable as those mentioned under integration. Some observers feel that conventions treating certain payments as dividends or interest would be all that was needed.[3]

Several other administrative problems would have to be ironed out to make a move to integration successful. Basis adjustment would be required to prevent retained earnings from being taxed twice - once when earned and once when they resulted in capital gains. Possibly the problems of basis adjustment - increase for imputation and decrease for distribution - could be handled by relying on the electronic data-retrieval capabilities of brokers and investment institutions.[4]

Designation of a shareholder of record for the allocation of income would be necessary, especially in large, publicly traded corporations, because it would be extremely difficult to attribute accrued income to several different owners in a year. This would also be needed to avoid record-keeping problems associated with transfers of stock. If the allocation were based on the last day of the year, 'trafficking' in losses between taxpayers with different marginal rates could occur.[5] However, allocation of income and losses to the shareholder of record on the first day of the year would result in income being allocated to the right person but give the imputation credit to the wrong person. One compromise would be to allocate income and losses to the shareholder of record on the last day of the year, but to allow him a share in losses equal only to the fraction of the year in which he held the stock, except for catastrophic losses occurring late in the year.

3 Ibid., 167.
4 Ibid., 218. McLure states that there is some dispute about the feasibility of this.
5 See U.S. Treasury, Blueprints for Basic Tax Reform, 1977, 70.

Possibly the easiest way to prevent trafficking would be to simply not pass losses through to shareholders. The losses could be carried forward to offset earnings in future years.

If dealt with in the traditional fashion, audit adjustments and amended returns would create immense problems. It would be an administrative nightmare if every shareholder of a corporation were affected each time the corporation had to amend its return. There would appear to be no alternative but to reflect the results of the adjustments and amended returns in the year they were made rather than the year to which they referred.

Interjurisdictional flows of corporate source income

The obvious need not be belaboured: all of the administrative problems just described not only exist, but are greatly magnified when interjurisdictional flows are taken into account.[6] Moreover, if Ontario were to adopt its own integration scheme, major questions concerning the treatment of 'foreign' corporate source income of Ontario shareholders would arise. Would Ontario impose a withholding tax on the Ontario corporate source income of the residents of other provinces? Difficult matters of concept, of provincial-national purpose, and of interjurisdictional strategic behaviour arise. These are considered in Chapter 14.

CARTER COMMISSION PROPOSALS

The Carter Commission proposals for integration ran into a groundswell of opposition. It may be instructive to examine the basis of the criticism at that time.[7]

The integration proposal was bound up with the full taxation of capital gains, as the Commission felt that the removal of double taxation should be counterbalanced by taxation of share gains. This would also eliminate the persistent and irritating surplus stripping problem. Given this 'package' nature of integration and capital gains, attacking the former appeared to be the best means of forestalling the latter.

The battle against integration was also enmeshed in the fight for a

6 See McLure.

7 Much of the analysis comes from Richard M. Bird and S. Bucovetsky, "Tax Reform in Canada: A Progress Report", National Tax Journal, 25, 1972, 15.

split rate of corporate tax, since under integration of small, closely held corporations most shareholders would have been taxed at their marginal, usually higher rate.

Opposition by the mineral industries was also engendered by the effect of integration on tax concessions. Incentives such as depletion allowances and rapid write-offs of capital costs would have lost some of their advantages. Under the White Paper, for instance, distributions out of tax-sheltered cash flow would not have carried the privilege of gross-up and credit. This illustrates the dangers of implementing integration which nullifies concessionary income.

It has also been postulated that the main thrust of industry opposition to integration was emotional: an inability to believe that the government would permanently abandon such a lucrative source of revenue as the unintegrated income tax.[8]

8 See Bird and Bucovetsky, 31.

Appendix 11D
Taxation of interjurisdictional capital flows[1]

Investment may be divided into two basic categories. Portfolio investment consists of debt and non-controlling equity capital. Portfolio investors are, by definition, primarily interested in the rate of return on securities: they may be either individuals or corporations. The most important non-tax factors determining the direction and volume of interjurisdictional portfolio capital flows are therefore interest rate differentials and the expected performance of stock prices in different jurisdictions. Since these factors differ little among provinces, tax factors should be expected to be particularly powerful in these areas.

In contrast, direct investment refers to equity capital in conjunction with a larger package of technology, management, and business arrangements. Unlike portfolio investment, direct investment from abroad entails control of local enterprise. Direct investment is almost invariably carried out by corporations pursuing profit and growth. Corporations establish subsidiary operations in a jurisdiction instead of, say, exporting or licensing for many different reasons, depending on the particular circumstances of specific investments. Most explanations of foreign direct investment assume that the corporations involved possess one or more non-marketed factors such as patents, trademarks, market power, or management skills which cannot be 'unbundled' from the investment package and sold outright. Some firms have a competitive edge in marketing skills (such as Coca-Cola and Seagrams), others emphasize product innovation (for example, IBM and Northern Telecom), while still others have developed an advantage in process engineering (as in the case of Japanese manufacturing multinationals and most world-scale resource processors). Foreign direct investment thus reflects the structure or

1 This note was prepared by Richard M. Bird.

behaviour of particular firms or industries and is not necessarily responsive to differentials in interest rates or relative factor prices.

Portfolio and foreign direct investment thus differ sharply in terms of their economic consequences, the analytic structure required to understand the consequences, and their policy aspects. In virtually every respect, direct investment now constitutes a more important dimension of the economy than portfolio investment and hence warrants more attention in discussion of the taxation of interjurisdictional capital flows. On the other hand, there seems good reason to think that increased interprovincial differences in the taxation of investment income would exert more influence on the direction of portfolio investment than on direct investment decisions. Differences in the integration of corporations and shareholders, in the taxation of capital gains, in the treatment of interest and dividend income - all such variations in provincial tax systems may not only complicate the life of taxpayers but also influence their portfolio allocation decisions. It is, however, another and quite separate matter to discover what the implications of such portfolio adjustments might be for real investment (and employment) decisions.

The following brief introduction to the effects of alternative income tax rules on investment draws heavily on the extensive international literature on this subject. All that has been done here is to adapt portions of this literature to the interprovincial context in order to provide a potentially useful input into the current discussion on the possibility of a separate provincial income tax in Ontario.

A most important economic objective in the design of tax policy has traditionally been the achievement of the desired degree of tax neutrality between investment in different locations. Tax policy may promote efficiency in resource allocation by removing all tax differentials between investment in different locations. On the other hand, taxes may equally well be employed to encourage or to discourage private individuals and firms from investing outside of Ontario rather than within Ontario, or to encourage or discourage non-Ontarians from investing in the province.

An alternative possible efficiency criterion focusses on the efficient allocation of resources from a purely provincial viewpoint. The province's tax arrangements can either establish a situation under which domestic investors experience no tax-distortion with respect to decisions to invest in the province or abroad or a situation wherein investors abroad will not be discriminated against (vis-à-vis Ontario investors) with respect to their

investments in Ontario. The former arrangement is said to promote capital-export neutrality, while the latter promotes capital-import neutrality.

Capital-export neutrality prevails if equal pre-tax returns on local and outside investments provide equal after-tax returns. For example, from the perspective of Ontario, an investor located in the province would be indifferent between investments yielding 20 per cent pre-tax returns elsewhere and in Ontario, inasmuch as after-tax returns would be the same in both cases. This is consistent with efficient allocation of Ontario's capital. On the other hand, capital-import neutrality prevails for Ontario if all investors, whether they are local or outside, pay the same rate of tax on investments in Ontario. In other words, capital originating elsewhere competes on equal terms in Ontario with Ontario capital. Capital-import neutrality is thus consistent with efficient allocation of capital within the capital-importing country.

In addition to such efficiency criteria, equity considerations are, as always, relevant in determining tax policies. In particular, the distribution of tax revenue between capital-exporting and capital-importing provinces, or what may be called interjurisdictional sharing, is always a major issue in interjurisdictional tax disputes.

As noted above, tax neutrality may be defined as a tax regime which does not interfere with the taxpayer's market-directed choice between investment locations. Neutrality in this sense is a useful benchmark in assessing tax-caused distortions, because it means that net rates of return and hence investment decisions will not be affected at all by tax factors, and hence, in certain specialized circumstances (basically competitive markets), allocative efficiency will be achieved. Depending on its evaluations of the benefits and costs of 'foreign' investment - social, political, and economic - a province may, of course, desire for various reasons to pursue policies that are not neutral in this sense. For example, since an 'optimal' tax policy in the sense of bending the terms of trade in its favour is not a realistic option for any province, Ontario may decide it would prefer to have more of its capital locally owned even at the expense of reducing its total capital (and hence the wages of Ontario workers). On the other hand, and more probably, it may choose to have a larger capital stock, even if less of it is locally owned.

In any case, it is important to note that policies to achieve capital-export neutrality or to achieve capital-import neutrality need not be and,

indeed, generally are not consistent with each other. From the point of view of any one province, capital-export neutrality requires tax differentials be offset between that province and all source provinces (and countries), i.e., the areas in which investments by provincial residents are located. Under a system which achieves capital-export neutrality, investors are encouraged to invest where pre-tax returns are highest, since the tax rate applies regardless of income source. Tax considerations do not distort international investment decisions, pre-tax yields of equivalent risk are equalized (in equilibrium) everywhere, and the provincial stock of capital is allocated in a manner consistent with maximum efficiency in production interprovincially and internationally.

Capital-import neutrality, on the other hand, exists when all firms pay the same rate of tax on capital earnings in the province. Domestic tax law must not discriminate between investors according to their places of residence or nationality. If there is an X per cent tax on interest, dividends, or royalties paid to local investors, for example, capital-import neutrality dictates that such capital income payments to outside investors be taxed at exactly the same rate. (Capital-import neutrality is sometimes referred to as 'competitive' neutrality because all firms compete on an equal tax basis.) As noted earlier, this arrangement promotes the most efficient use of resources in the capital-importing province.

For both capital-export and capital-import neutrality, the focus of policy is on the overall tax rate on investment inclusive of levies of both source and residence jurisdictions. The policies differ in regard to which tax rate, domestic or foreign, predominates. For capital-export neutrality it is the domestic rate, while for capital-import neutrality it is the foreign rate(s).

The general rule in the industrialized world is that in principle foreign investment income is taxed at a rate which equals the domestic rate on investment that takes place at home; i.e., capital-export neutrality prevails. In pursuit of this objective, capital-exporting countries have generally been willing to provide credits for taxes paid in source countries. While this is consistent with efficient international allocation of capital, the widespread use of the policy of crediting foreign taxes is probably as much a result of priorities of access to income as it is of the loftier objective of allocative efficiency; to put it simply, capital-importing countries are in the privileged position of having first kick at the can. If capital-importing countries were to refrain from taxing foreign-owned in-

vestments, this would likewise be consistent with capital export neutrality but at an obvious fiscal cost to the source countries. The foreign tax credit arrangement is the inevitable result of a dual commitment to the residence principle of international taxation and the principle of capital export neutrality. Application of this reasoning in the provincial context suggests that Ontario would have to credit other provincial taxes, partly, no doubt, in order to induce them to provide reciprocal treatment to Ontario investors.

In theory, a universally applied foreign-source tax credit will result in general capital-export neutrality if all foreign-source taxes are creditable, if foreign-source income is taxed (and credits allowed) on a current basis by the residence jurisdiction, and if the structure of taxes applied to corporate income is essentially the same everywhere. In practice, each of these three necessary conditions, to a greater or lesser degree, is lacking in the international sphere, and there are similar questions regarding the limitation of the tax credit, on the deferral of taxes on foreign source income, and on the effects of differential personal-corporate tax integration in the provincial context.

If, for example, a capital-exporting jurisdiction does not specify an upper limit on the credit it allows for taxes paid to other jurisdictions by its residents, the doors of its treasury are wide open. To restrict potential revenue loss, an upper limit is invariably imposed on the foreign tax credit, usually by saying it can be no more than the amount of residence tax liability otherwise due on foreign-source income. Foreign investments are thus taxed at the higher of the rates charged by the source and residence jurisdictions. If the source rate exceeds the residence rate, a tax bias prevails against capital exports (although this is strictly the case only if the residence jurisdiction adopts the per country limitation method, as does Canada).

Other elements of capital-export bias may arise from the fact that residence jurisdictions usually do not allow foreign subsidiaries to offset their losses against the parent firm's domestic income. Nor are investment tax credits or accelerated depreciation schedules ordinarily extended to capital expenditures in other locations.

On the other hand, deferral generally establishes a bias in favour of foreign investment. Deferral means that the residence tax liability is not incurred until the earnings of a foreign investment are repatriated to the residence of the investor. If repatriation of foreign-source earnings is

delayed indefinitely, the present value of the residence liability approaches zero. Even if repatriation occurs immediately, or if there is no deferral provision, the residence liability is likewise low (zero) when the source tax rate is close to (higher than) the residence rate. Residence tax then has little or no relevance for foreign investment decisions. In effect, this is identical to a territorial approach to taxation of interjurisdictional income flows on the part of the residence jurisdiction; i.e., the residence essentially forgoes its claim to tax foreign-source income. This system obviously provides encouragement to invest outside the province, although the strength of this bias would depend on the tax systems applied to foreign investment in other jurisdictions.

Assuming, for the moment, that capital-export neutrality has been decided to be the appropriate goal of policy, how can it be achieved when different jurisdictions have different systems of taxing corporations and shareholders? The analysis is complicated, so only a brief illustration will be given here, concentrating on the case of portfolio investment (partly for reasons set out earlier).

Basically, to achieve neutrality in this case, all foreign corporation and withholding taxes would have to be grossed-up and credited to corporate portfolio investors, with any excess credit being refunded. Alternatively, there could be a 'pass-through' to shareholders of the credit for any foreign withholding tax. However, if the corporation is considered to be the sole decision-making unit, a full credit for both taxes at the corporation level would be more consistent with tax neutrality.

For individual portfolio investment, what may be called a corporation tax adjustment is really needed in order to eliminate any tax differential that would otherwise exist between domestic and foreign investments. That is, the domestic corporation tax has to be applied on a current basis to the investor's pro rata share of corporate profits, and the foreign corporation tax has to be fully credited. Further, any withholding tax on dividends should be fully credited against domestic personal income tax.

When the source jurisdiction has a dividend credit (or full integration) system, and the residence area does not (assume, for example, that Ontario abolished the dividend credit), a special tax may have to be levied by Ontario to absorb the benefits of any dividend credit extended by the source jurisdiction to nonresident (e.g., in Alberta, but resident in Canada) investors. (This assumes that the amount of dividend credit, which depends on the actual distribution, is unknown at the time the

foreign tax credit is granted. This problem would presumably not arise in the case of a full integration system.) If this is not done, investment in other provinces will be encouraged to the extent that net yields on foreign shares are increased by the dividend credit (unless, of course, the increase is fully capitalized into higher stock prices - a possibly significant qualification - in this and other respects - which cannot be discussed further here).

The difficulties in achieving capital-export neutrality are greater when the capital-exporting jurisdiction employs any system of taxing corporate-source income other than a separate entity system. If the capital-exporting jurisdiction has a dividend credit system, as Ontario now does, it will have some difficulty in achieving capital-export neutrality. What is required in this case amounts to integration of the foreign corporation tax and domestic personal income tax. A full domestic dividend credit would have to be extended to Ontario shareholders in foreign corporations in order to place them in the same tax position as shareholders in those corporations which only operate in Ontario.

If corporate investment decisions are assumed to be affected only by taxes at the corporation level, it might be argued that there is no need to grant such a credit to shareholders in foreign corporations. But if this policy is followed and the result is that the payout ratio of foreign corporations has to be increased to compensate for the failure to grant the dividend credit to their shareholders, the result is non-neutral treatment of investment in different locations. The potential revenue loss from this system, if the source jurisdiction levies a high corporate tax, would appear to constitute an effective bar to its implementation.

These various difficulties in achieving tax neutrality recur and in some instances are exacerbated when the source jurisdiction too has some sort of integration system, but of a different form or at a different level. This would come about, for example, if Ontario enriched its dividend credit. However, if both jurisdictions have comparable levels of corporation tax and distribution relief (which is extended to foreign portfolio investors), this problem can be avoided.

In summary, any difference in the degree of integration of corporation and personal income taxes introduces some difficulties and complexities into the tax arrangements required to achieve capital-export neutrality. In particular, relief at the shareholder level (dividend credits) raises the question of the integration of the foreign corporation tax and the domestic

personal income tax at either the corporate or personal level. This is more difficult when the other jurisdiction does not provide similar relief than when it does. On the other hand, the extension of the dividend credit to foreign investors in Ontario, rather than helping to achieve capital-export neutrality, as one might at first think, actually requires that offsetting measures be adopted by the other jurisdiction if neutrality is to be achieved. Of course, if the 'foreign' jurisdiction does not act to restore neutrality, the result will be to favour foreign investment (in Ontario) over domestic investment. (Full integration of corporate and personal taxes along the lines proposed by the Carter Commission leads to similar but more serious problems.)

The conclusion up to this point is therefore that any integration of corporate and personal taxes makes the achievement of capital-export neutrality more difficult than it is when corporations are taxed separately from the personal income tax. (This conclusion is not altered if the corporation tax is assumed to be shifted forward in prices.) The weight to be attached to this finding largely depends, of course, on the importance attached to what has here been called 'efficiency' in the design of provincial tax policy.

What seems more likely to be important in the real world, of course, is for tax policy to be guided by a quite different criterion of efficiency, one concerned with the allocation of resources from a purely provincial viewpoint in contrast to the world viewpoint underlying the objective of capital-export neutrality. To ensure the efficient allocation of resources from a strictly provincial viewpoint, the gross return on domestic investment must be compared with the net (after-foreign-tax) return on foreign (out-of-province) investment. If there were no other costs or benefits of foreign investment, provincial advantage would be maximized by equating this gross return with the net (after-tax) return from foreign investment, a result which could be achieved by applying the deduction approach to foreign taxes.

This procedure would also achieve 'equity' among individual taxpayers, in the sense of treating them all the same with respect to income received in the province. (As before, it is assumed the corporation tax is unshifted. If universal shifting of corporation tax is assumed, the exemption of foreign income may be justified on narrow provincial efficiency grounds.) To the extent that foreign investment is a complement to, rather than a substitute for, domestic investment, as may be the case for

direct investment, these results would, of course, have to be modified. This point emphasizes again the probable importance of sharply distinguishing portfolio and direct investment in any discussion of tax effects on investment, since it is usually assumed that while direct investment abroad may be complementary to investment at home, portfolio investment is more likely to be a substitute.

Assume, for example, that the gross profits from a domestic and a foreign investment are each equal to 100 and that the tax rate in both jurisdictions is 50 per cent. If the full credit approach is employed, investors will continue to invest abroad until the gross profits from foreign investment are equal to those on domestic investment. Provincial gains from the investment, however, are reduced by the foreign tax to 50. If, instead, the deduction approach is applied, foreign investment will become less profitable than domestic investment, since the investor will now have to pay 50 in foreign tax and 25 in domestic tax. The gross profit on foreign investment would have to be 200 to yield the same net profit to the investor as 100 in gross domestic profits. Provincial gains on foreign investment, i.e., profits net of foreign tax, would then be equal to total gains on domestic investment. Because the net profits on foreign investment have to be equated with the gross profits on domestic investment, the foreign tax rate becomes crucial to location decisions . Encouragement of investment in low-tax jurisdictions and discouragement of investment in high-tax jurisdictions will thus result from the deduction method - which is, of course, one of the intended results of the provincial efficiency criterion.

The difficulties and complexities arising from the integration of corporate and personal taxes are, however, less serious in this case than in the 'world' efficiency case. The problem of integrating foreign corporation tax with domestic personal income tax ceases to exist, for example, because under this criterion foreign investment bears at least the same domestic ccrporation tax as domestic investment. However, a dividend credit still has to be given to distributions to resident shareholders of foreign income if corporate investment policy is assumed to be influenced by the cumulated tax burdens of shareholders, because otherwise foreign investment would be unduly penalized and provincial gains would not be maximized.

Thus, some difficulties would still remain with integration even if one were concerned only with provincial efficiency. Moreover, in principle,

the current taxation of subsidiary income would still be required, because the deferral of taxation on reinvested foreign income would otherwise, from the standpoint of provincial efficiency, unduly encourage foreign investment. The failure to tax such income currently (of course, with deduction of foreign corporation tax) would encourage capital outflows beyond the point where the net (after-foreign-tax) profits equalled the gross domestic profits and would therefore result in provincial losses. But current taxation obviously involves substantial difficulties, especially if either Ontario or the capital-importing jurisdiction adopts some form of integration.

Individual portfolio investment abroad would cause particular difficulties. In this case, provincial efficiency would require that net dividends be subject to Ontario corporation tax and the balance to Ontario personal income tax, because without such a corporation tax investment abroad would be encouraged beyond the optimal point. To put it another way, in order to achieve provincial efficiency, foreign portfolio investment should be limited to the point where the net (after the domestic corporation tax) dividends equal domestic dividends. Under a dividend credit system, this requires the granting of dividend credit to portfolio dividends. If, on the other hand, the capital-importing jurisdiction also provides a dividend credit, net cash receipts (i.e., original dividends plus dividend credit minus withholding tax) have to be subjected to domestic corporation tax and the balance to personal income tax.

Complex as it may appear, the above discussion is only a preliminary and incomplete sketch of the sort of analysis needed to develop either a fully 'neutral' system of taxing portfolio investment from the point of view of either allocative efficiency in general or the pursuit of provincial interests more narrowly defined.

As is often the case in tax policy studies, at least three separate ingredients are needed in order to develop the most appropriate tax treatment of investment: (1) a clear understanding of the effects, in principle, of the present system; (2) a similarly clear idea of the desired objectives of policy in this area; and (3) as complete evidence as possible on the empirical magnitudes involved and their sensitivity to policy changes. All that has been done in this first, preliminary survey of the problem is to bring together some readily accessible bits and pieces of the analysis that is really needed. While much closer empirical study is obviously required in order to determine whether much more work in this area is really worthwhile, even this preliminary discussion may perhaps be useful in raising several questions that may repay further research.

12
The taxation of capital gains

Unlike Chapters 8 through 11, which consider the effect of possible PIT changes (or other policy instrument changes) on the principal determinants of potential output, this chapter considers a particular component of the existing PIT base - the partial taxation of capital gains. The reason for this special attention is not the particular economic importance of the present taxation of this component of income but rather the seemingly endless controversy that prevails concerning the subject.

Given what has been said in the preceding chapters concerning the effects of PIT changes on saving and corporate investment in a small, open economy such as that of Canada-Ontario, and the uncertainties with respect to the elasticities of saving and corporate investment to changes in interest rates and the user cost of capital, it can be inferred that there is no reliable empirical evidence to support the proposition that the partial taxation of capital gains under the existing Canada-Ontario PIT system has serious adverse economic consequences. This argument is made explicitly in the concluding section of this chapter. Those who have not drawn the inference from what has already been said might find it convenient to read that section before proceeding through the chapter.

To argue that the elimination of capital gains from the PIT base would be most unlikely to bestow the economic benefits that are so frequently claimed is not to assert that the current treatment is satisfactory. An attempt is made in this chapter to draw out the major sources of the prevailing problems.

At the present time, except for gains made in the normal course of carrying on a business (that are treated like any other business income), one half of capital gains, excluding principal residence, are only brought into personal income when realized and are taxed at personal marginal rates. Net capital losses are deductible against other income but with a

limit of $2,000 for the current year and $2,000 for the previous year and/or $2,000 for any number of future years. Gains arising before January 1, 1972 are not subject to tax. Realization is deemed to have occurred upon death or on giving up residence in Canada. The magnitude of taxable capital gains included in the PIT since their introduction in 1973 and an estimate of the revenues derived from their inclusion in income are shown in Table 12.1.

Clearly capital gains are given preferential treatment under the present system. But should capital gains be taxed at all? There are few questions in the field of taxation that elicit such strong emotional responses. Arguments are advanced on both sides based on what purport to be high ideological principles, compelling logic, and simple administrative expediency considerations.

TYPES OF 'CAPITAL GAINS'

One of the reasons for the endless controversy surrounding the taxation of capital gains, and perhaps the most fundamental aside from the seldom-stated matter of self-interest, is that the term itself is a portmanteau: so-called capital gains encompass some diverse elements. Three of them can be usefully distinguished. From our earlier discussion of corporate source income we have seen that share prices are usually assumed to reflect the capitalized value of the expected stream of future after-tax earnings to be generated by the corporation. Where earnings are retained and reinvested in the corporation, the value of its shares will rise by the amount of the retention if marginal investors (resident or non-resident) expect the additional capital to yield the same net return as the corporation's existing stock of capital. Therefore, increases in share prices arising from retentions are not capital gains in the usual sense. Suppose the corporation had distributed the earnings and the shareholders had reinvested them in the corporation through the purchase of newly issued shares. This transaction would have had, but for the greater transaction costs, the same economic effect as the retention of earnings plus the resulting share gain. No one would argue that the value of the additional shares held by the shareholder constituted a capital gain. Note, however, that the market's capitalized assessment of the expected future share of additional earnings attributable to the additional investment may be greater, equal to, or less than the magnitude of the retention. In prin-

TABLE 12.1
Net taxable capital gains, by income bracket, 1973-79 (in thousands of dollars)

Income bracket (in $)	1973	1974	1975	1976	1977	1978	1979
1,000 - 5,000	13.8	11.1	18.3	15.8	14.6	23.6	35.5
5,000 - 10,000	24.3	28.6	40.9	59.5	58.3	91.4	107.2
10,000 - 15,000	29.8	34.6	42.5	59.8	57.1	92.9	129.6
15,000 - 20,000	24.4	33.9	41.1	62.0	63.4	88.9	130.2
20,000 - 25,000	19.8	25.7	38.0	53.2	67.3	89.3	132.0
25,000 - 30,000	14.5	19.9	30.1	49.8	52.5	72.7	125.3
30,000 - 40,000	9.7	24.1	35.3	66,396	88.8	124.2	194.0
40,000 - 50,000	14.9	16.5	25.6	42,133	62.8	89.0	143.4
more than 50,000	82.7	87.4	131.8	215,301	299.9	509.4	1,031.0
Total capital gains	245.4	282.5	404.5	632,154	773.2	1,193.2	2,045.0
Total income assessed	77,751.8	94,785.1	110,703.7	127,295.1	139,879.5	157,013.1	177,340.9
Total net capital gains / Total income assessed	0.32%	0.30%	0.37%	0.50%	0.55%	0.76%	1.15%

SOURCE: Taxation Statistics (Table 2) Revenue Canada - Taxation

ciple, to isolate the pure windfall capital gain, the retained earnings attributable to the shareholder should be added to his cost basis - the base from which changes are measured to determine the gain or loss. The gains or losses in the investor's shares would then be measured from this basis.

To be more specific: suppose $100 per share is retained by the corporation. The shareholder's cost basis should be increased from, say, $500 to $600. If the price of the share were to rise to, say, $650 and were sold, the capital gain would then be $650 minus $600 rather than $500.

In a similar vein, the increases in the market value of an asset that, in a period of inflation, do no more than keep pace with its ever increasing replacement cost can hardly be construed as a 'real' capital gain. Obviously the property is, in this case, neither more nor less valuable in real terms. This subject is discussed at considerable length in the Lortie Committee Report, entitled 'Report of the Ministerial Advisory Committee on Inflation and the Taxation of Personal Investment Income', published September 30, 1982. The Committee was established to consider proposals included in Finance Minister Allan MacEachen's June 1982 budget.[1] The present argument proceeds as though inflation were not a relevant consideration - a gross oversimplification.[2] Nevertheless, since the Lortie Committee's recommendations (which have been accepted by the federal government) will effectively eliminate inflation-induced distortions in the taxation of capital gains on listed common shares of Canadian public companies, this oversimplification is not serious.

There are windfall gains (and losses) that arise from unanticipated changes in market prices, often as an indirect consequence of changes that may occur for innumerable reasons elsewhere in the domestic or international economies. Clearly, these are unlike the gains arising from retentions or inflation. The most dramatic recent examples have been the

1 See also the Ontario Economic Council's submissions to the Lortie Committee entitled Inflation and the Taxation of Personal Investment Income: An Analysis and Evaluation of the Canadian 1982 Reform Proposals, and Inflation and the Taxation of Personal Investment Income: An Ontario Economic Council Position Paper on the Canadian 1982 Reform Proposals, published September 1982.

2 In addition to the report of the Lortie Committee and the two OEC documents referred to in the previous footnote, see the Boadway and Bruce Technical Paper. It deals extensively with the impact of inflation on personal saving and capital investment. Also see John

massive gains and losses arising from the unprecedented changes in the world price of oil as a result of the OPEC cartel. Those who held, directly or indirectly, petroleum producing properties made massive gains, as did those who held equity claims to oil substitutes, such as coal. By the same token, there were those who were unfortunate enough to hold properties that had high values contingent upon low-cost petroleum (e.g., least-cost production processes designed to use oil at $2 per barrel) and who sustained large losses as a result of the unanticipated jump in oil prices. More recently, a relatively small and perhaps temporary downward slide in oil prices has generated some reverse gains and losses.

These kinds of windfall gains and losses are undoubtedly capital gains and losses under any definition. One of the distinguishing features of these kinds of windfall gains and losses is that they arise coincidentally. That is to say, most of those who benefit or suffer from them do not engage in the activities that generate them in the expectation that they are gambling in the usual sense. The farmer's income, for example, is dependent upon the vagaries of weather and changes in world prices. 'Farming is a gamble'. But the farmer is a gambler to the extent that there are risks inherent in the industry, not because he wishes to make his living by gambling. It is probably true, however, that those who are averse to risk taking would avoid becoming farmers if they had a fair choice (i.e., other things being equal).[3]

Finally we come to a category of gains and losses that are the result of gambling per se, whether it be 'playing' the horses, the penny mining shares, or the gaming tables. Leaving aside those who operate such facilities as businesses, are the net gains or losses of 'professional' gamblers capital gains or losses or should they be treated like business income? The answer (unsatisfying as it is) would seem to be that the distinction between windfall gains and losses and gambling gains and losses as business income is a matter both of intent and of degree. The farmer can and does insure himself against some of the worst vagaries of the weather (hail insurance) and can, in theory at least, hedge against future price

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Bossons, 'The economic effects of the capital gains tax', Canadian Tax Journal, 29, November-December 1981, 809-33, which includes estimates of the impact of inflation on effective tax rates on real accrued capital gains.

3 However, the inherent (uninsurable) risks of farming presumably are reflected in the value of land, which is the capitalized net income it can generate after taking risk into account.

declines by selling crops for future delivery at known present prices. He can, therefore, escape some of the major risks. Yet farmers would still farm (although perhaps different individuals!) even if the risks were greatly reduced in one way or another. This cannot be said of the professional gambler, for whom accepting the risk is the business. But then, when is a business a business and not a hobby or diversion?

The concept of pooling is an important dimension of the question of risk taking. Particular events may be highly risky: but as the number of identical events increases the total risk declines. Consider coin tosses. There is only a fifty-fifty chance of correctly calling a head or a tail. However, given a true coin, many tosses, and the absence of a house charge for playing, the gambler will break even. Similarly, if 10,000 gamblers agreed to pool their winnings and losses from 10,000 separate fair games (again with no commissions charged), the risk for each of the players would similarly be virtually eliminated. Where similar risks are a common occurrence, the probabilities of events are knowable, and moral hazard can be controlled, institutional arrangements can arise that allow risk pooling and hence the avoidance of risk. Insurance is the most obvious example. Investment consortia are another, where each 'player' spreads his risk by having a relatively small stake in many games. This is common in the exploration for petroleum and minerals. Similarly, a large manufacturing corporation may have a research and development facility that allows it to investigate many new products and processes simultaneously, thus reducing the overall risk of failure that would attend the exclusive investigation of any one potential product or process.

There are, however, limits to pooling because of the bargaining, enforcement, and information costs involved. For example, private sector pooling does not arise where the costs of excluding, from the net benefits of the collective (pooled) endeavour, those who do not bear their proportionate share of the burden are high relative to the size of the net benefit. So-called 'pure' scientific research has this characteristic. Some risks, therefore, cannot be pooled within a private market context. These activities have to be subsidized by the state to obtain a result comparable with some of national or international pooling.

The foregoing discussion of capital gains leads to the following points that are relevant to the taxation of capital gains.

1. There is no justification for the taxation of the increases in share

prices attributable to corporate retained earnings as capital gains per se except as a crude, pragmatic substitute for the inclusion of undistributed corporate earnings in personal income on a current basis with a corporate tax credit.[4] Under a system that involved the full integration of personal and corporate taxes for residents, the share basis of the resident shareholder/taxpayer would be increased by the pro rata amount of the earnings retained. Thus, if (and only if) the marginal investor were a resident, the taxable gain or loss would only reflect the market's capitalized valuation of the probable future divergence in the after-tax rate of return that the additional investment was expected to earn relative to the capital in place. Under such a system, if the after-tax value of the addition to the earnings stream were to reflect the going rate of return (i.e., the opportunity cost of the retained funds invested), there would be neither gain nor loss. Only when the market expected the additional investment to earn an above 'normal' or below 'normal' rate of return would true windfall capital gains or losses arise.

2. The present system of partial integration through the dividend tax credit operates quite differently. The dividend tax credit is designed to eliminate the so-called 'surplus stripping' problem that plagued the pre-1971 tax system, by making the taxation of dividends identical to the taxation of the capital gain that could be realized if dividends were not paid, and if the firm were sold at a price that exactly equalled the firm's retained earnings. This is illustrated in Table 12.2.

Under this system, shareholders receive no explicit credit for corporate taxes accrued on income which is retained in the firm. On the other hand, the retained earnings are not included in taxable personal income and so are not subject to personal income tax. Any changes in share values resulting from the retention of corporate after-tax earnings are taxed only to the extent that they generate taxable capital gains. Only half of the gains are brought into income, and only when the gains are realized through the sale of shares. This tax deferral is of course valuable for high marginal rate shareholders.

4 We ignore here the notion of a corporate tax as a tax on pure profit. The issue of non-resident shareholders is discussed later.

TABLE 12.2
Example comparing the tax treatment of dividends relative to that of capital gains (taxpayers in the 50 per cent tax bracket)

	All income paid as dividends	All income retained
Before-tax corporate income	100	100
Corporate tax (48%)	48	48
After-tax corporate income	52	52
Paid out as dividend:	52	0
Retained earnings	0	52
Personal income before tax:		
Dividends	52	0
Capital gain	0	52
Total	52	52
Taxable personal income:		
Grossed-up dividend	78	0
Taxable capital gain	0	26
Total	78	26
Personal income tax:		
Gross tax (50% rate)	39	13
Dividend tax credit	26	0
Net tax	13	13

The equality (at least for top-bracket taxpayers) of taxes imposed on alternative ways by which a shareholder can obtain the income retained by a corporation is an important structural feature of the Canadian tax system. Without this equality (which depends on capital gains being taxed at half rates), it would be necessary to add considerable complexity to the income tax system in order to limit the extent to which taxpayers could avoid taxes on dividends.

3. The federal government announced in October 1982 that it will implement its earlier proposal for a Registered Shareholder Investment Plan in the modified form recommended by the Lortie Committee. This will eliminate some of the most serious inflation-induced distortions in the capital gains tax. (Those that remain principally concern the taxation of capital gains on investments in small businesses; they are discussed in chapter 13.)

4. Because of the deferral of tax on capital gains which are not yet realized, the shares of corporations which retain a high fraction of their earnings are more attractive to resident shareholders with high marginal tax rates. Conversely, because the dividend tax credit is of progressively greater relative benefit to taxpayers as their marginal tax rate declines, the shares of corporations with high dividend payout ratios are most attractive on an after-tax basis to shareholders in low tax brackets.

5. The existing dividend tax credit system provides only a partial offset to the corporation income tax levied on public companies. Nevertheless, by buying shares in corporations with low dividend payout ratios and holding them for substantial periods, taxpayers in higher tax brackets can substantially reduce the effective personal income tax rate applicable to the accrued capital gains that reflect the earnings retained at the corporate level.[5] As a result, such shareholders can largely escape the so-called 'double taxation' of corporate source income.

   Given this situation, many of the arguments about the negative economic effects of capital gains taxation as applied to corporate shares are clearly over-exaggerated, leaving the inflation issue to one side.

6. Likewise, the frequently made argument that the taxation of capital gains deters risk taking is also seriously overstated. Under a tax structure that, unlike the existing system, treated losses symmetrically with gains, the tax collector would bear the same proportion of the losses as of the gains, leaving the relative attractiveness of gambles and non-gambles unaffected. The basic problem individual taxpayers face is the severe limitations on the deductibility of net capital losses from other income. The present federal treatment allows only one half of the loss on the sale of shares to be deducted against income for the year. This is of course understandable, given that only one half of any gain is taxable. Such capital losses are deductible against other income in the current year up to a limit of $2,000. As previously mentioned, to the extent that one half of the

5 This statement may not be valid in a high-inflation context without the reforms recommended by the Lortie Committee. See, for example, Table 7 in Bossons, 1981, 825.

net capital loss in the year exceeds $2,000, it may be carried back one year and deducted from capital gains in that year without limit. Here again, however, it may be applied against other income only to the extent of $2,000. If the gain is still not absorbed, it may be carried forward indefinitely and deducted on the same basis: always deductible against future gains but only deductible against other income to the extent of $2,000 in any one year. To be symmetrical, half of the loss (given the existing treatment of gains) should be eligible for an unlimited carry back or carry forward without limitations as to deductibility against other income. Such eligibility will in fact occur when the Lortie Committee's recommendations are implemented, an important step that will eliminate a significant non-neutrality that is part of the current capital gains tax system. (The remaining distortions that affect small business investments are discussed in Chapter 13.)[6]

7. The extension of the concept of income to include one-half of capital gains became effective in 1972 following the Carter Report, the Benson White Paper, lengthy Parliamentary hearings, and seemingly endless public debate. Part and parcel of the current treatment of capital gains was the decision to tax such gains only when realized rather than on an accrual basis, with realization being deemed to occur on death or upon giving up Canadian residence permanently. The decision reflected a whole series of compromises concerning not only the appropriate treatment of corporate source income but also the prior decision to abolish estate taxes. Some will recall that, at that time, provincial governments imposed inheritance taxes. (The provinces cannot impose estate taxes because they have been construed to be indirect taxes that are ultra vires the Provincial Crown under the BNA Act.) The federal withdrawal from the estate tax field was, in a sense, the quid pro quo for the deemed realization at death provision with respect to capital gains. The federal authorities quite rightly judged deemed realization at death to be vital to the maintenance of the integrity of the new system. The reasons are sufficiently important to warrant recall.

6 It should be noted, however, that one-half of the capital loss on shares or debt of a Canadian-controlled private corporation is allowable in full against other income as 'an allowable business loss'.

PRACTICAL PROBLEMS

The taxation of capital gains is beset by three serious practical difficulties.

(a) Valuation problems: some assets are difficult (costly) to value because they are rarely bought and sold. There is no straightforward market price readily available at every point in time. To tax such assets on an accrual basis could, therefore, be considered punitive.

(b) Liquidity problems: some assets are 'lumpy'. They have to be sold as an entity or not at all. When gains are taxed on an accrual basis, the taxpayer has to find the money to pay the tax cost in a short time period. If the taxpayer does not have the available cash and cannot borrow (not necessarily against the asset), this may entail selling the asset in order to raise the cash. The latter course of action may be considered unduly harsh if the asset has a value that cannot be quickly realized except at a large discount.

(c) Closely allied to the liquidity problem is the unwillingness of governments to allow taxpayers to defer payment, even at the going rate of interest (or more), on a routine basis. The government is, in other words, unwilling to carry the taxpayer except possibly in extremis. This traditional 'cash now' policy no doubt arose because of the costs of administering a deferred tax payment system in earlier times. The latter problems are now much more manageable, with computer tax files maintained for most individuals on a permanent basis. Perhaps the present policies regarding deferral of payment should be reassessed, at least as they apply to situations where cash, not capacity, is the problem.

In any event, as a consequence of these three problems, the taxation of capital gains on an accrual basis was deemed to be impractical or inequitable for some kinds of assets. Instead of confining the concessionary treatment to these problem assets, however, the same treatment was accorded to the taxation of capital gains on all assets (owner-occupied principal residences being the major exception), even though in aggregate

value terms the problem assets are probably a small fraction of the total.[7] Despite the fact that the reasons given were largely based on administrative expediency, there can be little doubt that the deferral (concession) implicit in taxation on realization was also attractive on political grounds. The values of tax deferrals with alternative interest rate and holding periods for a 40 per cent marginal rate taxpayer are shown in Table 12.3. This deferral of tax is equivalent to the provision by the tax authorities of an interest free loan equal to the amount of the tax.

However, deferral through 'realization only' gains taxation is itself the source of some serious problems. This is particularly true in two cases. Taxpayers can be 'locked in' to a particular holding because the tax consequences of disposal become so consequential that the portfolio adjustments that would take place in the absence of taxation are themselves deferred. This can lead to a misallocation of resources.

Closely related is the tax treatment of transfers at death. Many estates probably are as large as they are because they were accumulated on a tax deferred basis. In the absence of a deemed realization of capital gains on death and/or some form of death taxes, pools of wealth could escape most taxes for generation after generation. This is presumably unacceptable in a free society. Wealth could become concentrated in the hands of a relatively few families, a circumstance that usually entails or at least is perceived to entail an unequal distribution of political power. To abolish deemed realization on death in the determination of capital gains, as some would do, would, almost certainly and quickly, lead to a demand for the re-introduction of some form of death taxes.

However, leaving aside the question of death taxes, there is little doubt that the preferable treatment would be universal accrual taxation with two options. Where asset values could be determined at a reasonable cost the gain could, at the option of the taxpayer, be deferred until realization with the proviso that it would be assumed that the gain had accumulated evenly over the period the asset was held. Tax would be computed on the same basis, with interest charged on the tax forgone implicit in the postponement. Moreover, the liquidity problem could be eliminated by providing deferred payment privileges at the going rate of

7 As noted above, a modified form of accrual-based taxation is incorporated in the Lortie Committee's recommendations for inflation-adjusted taxation of capital gains on listed common shares of public companies.

TABLE 12.3
Interest free loans from tax authority implicit in deferral of gains realization (assuming gain of $100 and marginal rate of 40 per cent)[a]

Years of postponement	Interest rate 5%	10%	15%
5	$4.33	$7.58	$10.06
10	7.72	12.28	15.02
15	10.38	15.21	17.54

a (PV [0.4($100/2)])-0.4($100/2).

interest (plus), at least where 'lumpiness' characterized the asset.

A specious argument is frequently advanced that capital gains should be excluded from the tax base because they introduce inordinate complexities and hence heavy administrative and compliance costs relative to the revenue raised. The administrative complexities arise not because gains are taxed but because they are given special treatment (only half brought into income or excluded entirely). Simplicity can only be achieved when the distinction is eliminated between income from capital gains and income from other sources.[8] The record shows that in the many decades prior to the taxation of capital gains there were innumerable court battles between the tax collector and taxpayers concerning what was or was not a capital gain. Because the decisions were unpredictable, the level of uncertainty was great. The present treatment does not reduce these complexities, nor would their exemption from tax. The 'solution' to the complexity-uncertainty problem lies in eliminating the distinction.

As far as the revenue is concerned, there are five points to be made.

1. Again, gains are partially taxable on a realization basis only (with the exceptions noted above). Thus, the short period since the current treatment was introduced (less than one full decade in terms of data) necessarily means that revenues thus far have been low, because of postponement.

   Those who argue that capital gains should not be taxed at all

8 See D.J. Sherbaniuk, The Concepts of Income - The Receipts Side, Studies of the Royal Commission on Taxation, no. 20 (Ottawa: Queen's Printer, 1968).

because the revenues do not warrant the cost are, in many cases, the same persons who insisted that if capital gains were to be taxed at all they should be taxed at half rates (in effect) and only on realization. This is analogous to insisting that a bucket should not be used to take water from a well - then arguing that, if the water is going to be taken in this manner, the bucket should have two large holes in the bottom. To complete the circle, the argument later becomes 'I told you a bucket wouldn't work.'

2. Failure to tax capital gains like other income induces the costly search for tax minimization strategies.

3. When the tax treatment of capital losses is symmetrical with the treatment of capital gains, the relative attractiveness of risk-taking ventures is unimpaired.

4. The principal rationale for a personal income tax is that it permits taxes to be imposed in accordance with ability to pay. One can debate endlessly the appropriate measure of ability to pay and the extent to which that ability rises with income and wealth (i.e., proportionately or more than proportionately). It is not persuasive to many, however, to argue that a dollar gained by successful speculation (a worthy activity in terms of reducing market instability) is less able to bear tax than a dollar earned by, say, physical labour. Excluding capital gains from the tax base offends most people's sense of fairness and hence brings the integrity of the tax system into question.

5. Some capital gains are 'lumpy', as previously discussed. The problem is exacerbated when gains are taxed on a realization-only basis. Given their inclusion in the personal income tax base in the same way as income from other sources, generous averaging provisions must be available if serious inequities are to be avoided. Unfortunately, the November 1981 budget included a number of retrograde steps with respect to averaging that have not been reversed by the June 1982 (MacEachen) and October 1982 (Lalonde) budgets.[9]

9 For a discussion of averaging, see the Boadway and Bruce Technical

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. As was discussed in Chapter 10, the empirical evidence is not consistent with the assertion that there is a strong positive relationship between the after-tax rate of return on investment income and the rate of personal saving. The partial inclusion of capital gains in the PIT base therefore may or may not increase personal saving - we simply do not know. Nor do we know if increases in personal saving would be offset by reductions in other forms of domestic saving.

2. In any event, because Canada-Ontario interest rates are strongly influenced by international changes, changes in domestic saving have relatively little effect on the rate of capital formation. Rather, at full employment, they alter our degree of reliance on foreign saving.

3. When the marginal investors in Canadian equities are Canadian residents, widening the PIT to partially include capital gains lowers the after-personal-tax rate of return on investment. This is at least partially capitalized in lower share prices. This in turn raises the cost of finance and the user cost of capital, with a consequent reduction (of unknown extent) in real capital formation.

4. Because the Canada-Ontario economies are small and open, there is a reasonably high probability that domestic share prices are little affected by Canada-Ontario PIT changes.

5. The partial taxation of capital gains through PIT, assuming they are not capitalized and do not alter domestic saving can, however, have a wealth effect and induce portfolio composition changes. However, if the inclusion of gains in the base is offset by rate or other changes so that total revenues are unaffected, the negative wealth effects on those with capital gains will be offset by the positive wealth effects on those paying lower taxes.

Paper. It should be noted that an income-averaging scheme was put in place by the November 1981 budget; its defects arise from the fact that taxpayers who are not in the top tax bracket must pay additional current tax to take advantage of the potential for averaging in future years.

Assuming that revenues have to be maintained, the removal of all capital gains from the base would necessitate higher marginal rates or other offsetting base changes that are as likely to have effects as deleterious as the partial taxation of some capital gains.

6. It is by no means obvious, therefore, that the net economic effects would be positive.

7. This is not to claim that the present treatment of capital gains is satisfactory. There are serious deficiencies with respect to the treatment of capital losses and income averaging (a problem that could be resolved through adoption of a flat rate of PIT - as discussed in the Introduction). Last and certainly not least, the failure to take inflation into account has created serious problems heretofore. (See the Lortie Committee Report, alluded to earlier.)

8. The elimination of the partial taxation of some capital gains would almost certainly give rise to demands for a tax on net worth and some form of taxation on death. It seems to be forgotten that the present treatment of capital gains was 'exchanged' for the complete federal withdrawal from the death tax field.

9. Because the Ontario average rate of PIT is roughly one-third of the combined Canada-Ontario PIT rate, and because in effect capital gains are only taxed at half rates (with certain important exclusions), the adoption of an Ontario PIT for the purpose of eliminating capital gains from the PIT could only, on average, reduce the ratio of tax on such gains by one-sixth. Given the substantial uncertainties concerning the effects of changes in after-tax rates of return on saving and investment, it would be difficult to argue for such a change on economic grounds.

10. As was suggested in Chapter 8, there is some doubt (though not much) concerning the effects of tax differences on labour mobility (a complex question, since tax levels are associated with local economic conditions and/or the provision of government services). There is no doubt, however, that capital is extremely mobile.

A move by Ontario to eliminate the tax on capital gains following

the adoption of a separate PIT would almost certainly be followed by offsetting or retaliatory policies by other jurisdictions. The end result would be no net advantage to Ontario, a reduction in the size of the provincial personal income tax bases for all provinces, and higher PIT rates or other tax increases with no perceptible economic advantage provincially or nationally.

13
Investment financing incentives for new and small enterprises[1]

This chapter examines the potential use of a separate PIT for the delivery of investment incentives. First, the need for incentives is discussed. Primarily, this involves an examination of existing tax distortions and capital market imperfections that explain the need for corrective government action. This issue impinges most directly on the financing difficulties of small businesses. In addressing this question, the most suitable delivery system is examined. If Ontario's options for implementing tax credits to encourage investment under the Tax Collection Agreements are at best uncertain and at worst negligible (as outlined in Chapter 2), then alternatives must be examined. Would the introduction of incentives through a separate PIT offer a net benefit? To answer this question, it is necessary to evaluate the current Ontario programs designed to assist small and/or new enterprises. Obviously, if existing incentives (such as those embodied in Ontario's Small Business Development Corporation program) are working well and are relatively cost effective, the need to press Ottawa for greater flexibility under the Tax Collection Agreements or to establish a separate Ontario PIT is reduced.

The case for government intervention in the small business sector is often built around the premise that new small businesses are one of the primary engines for growth in the economy. For instance, it has been claimed that independent enterpreneurs operating small businesses are responsible for two-thirds of the important innovations of this century and tend to create jobs more rapidly than mature organizations.[2] It is the new

1 This chapter was written by John Bossons. Background materials were prepared by Peter Quance and Ronald Hood. See also the technical paper 'Investment Incentives for New and Small Enterprises' written by Edwin Neave.

2 See 'Toward Venture Capital in Nova Scotia', a Green Paper prepared by

and growing firms, as opposed to small firms that are static, which have been contributing most to net job creation.[3]

Many of the arguments advanced in support of government assistance to small businesses have the same ring about them as the arguments generally advanced for concessions, and consequently these arguments have sometimes been dismissed as special pleading. In fact, there are sound reasons for government assistance for new and growing small businesses. These include the need to offset distortions in the current tax system that discourage investment in such firms. Capital market imperfections also impose constraints that would yield socially undesirable outcomes if not offset by government assistance programs that reduce financing costs and increase the availability of capital.

Before turning to an analysis of these tax distortions and market imperfections, it will be useful to review a number of special features of the current tax treatment of small businesses.

TAX TREATMENT OF SMALL BUSINESSES IN ONTARIO

Small businesses resident in Ontario that meet the technical requirements of a Canadian controlled private corporation already receive extensive relief through the tax system, as outlined below.

- The effective rate of tax on the taxable income of such businesses is ordinarily 25 per cent (15 per cent federal tax and 10 per cent provincial), in contrast to the usual CIT rate of 50 per cent (36 per cent federal and 14 per cent Ontario). The May 1982 Ontario budget suspended for two years the Ontario corporate tax for small businesses, with the result that most Ontario small business corporations will pay only 15 per cent over that period.

- This rate of tax results from CIT provisions that allow Canadian-controlled private corporations a limited deduction from their taxable income (the so-called 'small business deduction').

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the Task Force on Venture Capital for the Nova Scotia Minister of Development, July 1979, 2, quoting 'The Availability of Risk Capital for Technological Innovation in Canada' by Robert Grasely, Minister of State, Science and Technology, Ottawa, 1975.

3 Edward Hughes, 'Problems in Assessing the Quantitative Contribution of Small Business Sectors', prepared for the Small Business Financing Review, Department of Industry, Trade and Commerce, Ottawa, February 25, 1982, 2.

- The small business deduction is available only with respect to 'active business income' up to $200,000 per year with a 'lifetime' total of $1,000,000. (Following the November 12, 1981 federal budget, dividends paid out of active business income will no longer regenerate the firm's entitlement to the small business deduction.)

- As a result of changes made in the recent budgets and economic statements, a federal corporate distribution tax of 12.5 per cent will be levied beginning in 1983 on dividends distributed out of income earned after 1982 that has benefited from the small business rate. Dividends will be considered to come first from post-1982 income. They will also be considered to come first from investment income, then from low rate earnings, and finally from other business earnings.

- Small businesses are also eligible for the manufacturing and processing deduction. As a result, the effective tax rate ordinarily would be 20 per cent (10 per cent federal and 10 per cent provincial) but this is reduced to 10 per cent during the Ontario small business tax holiday.

- For federal tax purposes, manufacturing and processing are defined by listing a number of activities - for example, farming, fishing, logging, construction, and operation of an oil well - that are not eligible.

- Small Business Bonds allow small businesses in financial difficulty to reduce their borrowing costs by treating interest payments as dividends. Since they are treated as dividends, these payments will not be taxable to the lender or deductible by the small business. Because the lender incurs no tax, a lower rate of interest can be charged, and non-deductibility is often not a problem for the small business because it often does not have net income against which to deduct interest expenses.

These measures are provided for small businesses on numerous grounds, some of which are discussed below. Their net effect is to reduce the average effective tax rates faced by small businesses quite considerably.

For instance, average taxes in 1978 on small businesses with under $2,000,000 in sales amounted to 24 per cent on pre-tax profits and taxable income. Comparable figures for larger corporations were 28 per cent of pretax profits and 38 per cent of taxable income.[4]

However, it is also apparent that many small firms are not being aided by the current tax treatment. In 1977, more than 60 per cent of the smallest firms (under $250,000 in sales) did not pay tax because they did not have any taxable income.[5] This fraction decreases as firm size rises. Therefore, it could be argued that the present approach through the tax system is not helping those firms most in need.

EXISTING TAX DISTORTIONS

Investment incentives that are built into either the tax system or the expenditure system may be viewed as serving one or more of the following functions: (1) offsetting the effects of tax distortions that would otherwise exist, (2) offsetting the effects of capital market imperfections that may cause the cost of capital for particular types of investments to be higher than the cost to society of such capital, (3) increasing total capital formation, and (4) steering investment into particular areas for social or political reasons that go beyond questions of economic efficiency. In this chapter, primary emphasis is put on the first two functions. The third has already been discussed in Chapters 9 through 11. The fourth can in general be as easily executed through special-purpose grants or subsidies as through provisions that complicate the tax system. The problems caused by existing tax distortions are discussed in this section; problems caused by capital market distortions are discussed subsequently.

The existing tax system as it applies to the taxation of income from capital contains many distortions, both at the corporate level and at the personal level. These distortions are important to the extent that they cause investment decisions to be different from what they would otherwise be. For the purposes of this study, the distortions of most significance are those which affect the way in which personal investments are allocated and which may be ameliorated by changes in a provincial personal income tax.

4 Ibid., 9.

5 Donald McFetridge and James Whipp, 'Tax Measures and Small Business Financing', prepared for the Small Business Financing Review, Department of Industry, Trade and Commerce, Ottawa, March 1982, 6.

One of the fundamental factors that differentiates one potential investment from another is the degree to which an investment is risky, as discussed in Chapter 12, 'The Taxation of Capital Gains'. From a social viewpoint, it is of critical importance to ensure that the tax system does not discourage investments in risky ventures. Indeed, since many risky investments are made in the form of new ventures which are costly for investors to evaluate, there may well be a justification for subsidizing new ventures to compensate for informational impediments to diversification that make the private cost of such investments higher than their cost to society. This question is explored in the next section. Beyond this, there may be externalities or economies of scale in new venture investment (such as in the development of entrepreneurial skills or through the creation of intermediaries that reduce the cost of information for investors in new ventures) which would rationalize subsidies of investments in new ventures or in risky investments undertaken by existing firms (such as research or development). At a minimum, there is clearly no social justification for discouraging risk-taking investments.

Nevertheless, such discouragement is precisely what is accomplished by non-neutralities built into the current corporate and personal income taxes.

The major source of tax distortions that discourage risk-taking are restrictions on the effective deductibility of losses. Ideally, if the government is (through the tax system) implicitly a partner sharing in the potential profits derived from an investment, the government should equally bear the same share of any losses. With a uniform sharing in gains and losses, taxes would not distort risk-taking. In fact, severe restrictions are imposed on the extent to which the government participates in losses; this is accomplished by restricting the extent to which business and capital losses may be offset against other income accrued by the investor and also by restricting the transferability of losses between taxpayers.[6] These restrictions increase the after-tax loss in the event of failure, and so increase the effective riskiness of risky investments. This distorts the allocation of investment funds away from risky investments. Restrictions

6 But see Chapter 12, note 6 regarding the deductibility of losses on investments in Canadian-controlled private corporations. It should also be noted that such shares can be transferred to a child upon the shareholder's death at the tax basis, rather than being subject to the usual rule of deemed realization at death.

on the deductibility of losses have three principal effects. The first is a disincentive for investments in new ventures. (A succession of tax incentive and grants programs have been developed by the Ontario government which have offset this particular disincentive; these are discussed in a later section.) The second is also a disincentive for other personal investments of a risky nature, and is intimately connected to the way in which capital gains are taxed. The third is an interaction between the treatment of losses and the effectiveness of tax incentives. Each of these will be discussed in turn.

The effective riskiness of risky investments depends on a taxpayer's capacity to offset loses against taxable income from other sources. This gives a significant advantage to large established firms which have relatively safe sources of taxable income from established operations, since such firms can immediately utilize tax losses from risky ventures up to the amount of the taxable income from established operations. New ventures with no established operations have no such opportunity. The tax distortions resulting from limitations on the deductibility and transferability of losses thus both discourage risk-taking and penalize new ventures vis-à-vis established firms.[7]

One relatively efficient way in which these distortions may be offset is to permit losses of firms to be transferred to shareholders and offset against shareholders' income from other sources. A second option (again using the personal income tax) consists of allowing the deductibility from taxable personal income of amounts directly invested in risky new ventures, with such deductions being reversed when income is received from the new venture or shares in the new venture are sold. In the event that the new venture is successful, the second option implies a deferral of tax on amounts invested in the new venture until the investment generates a return. In the event of failure, the previous tax reduction arising from the deductibility of amounts invested is not recovered by the government, thus making the government an equal partner in losses as well as gains. A third possibility is to extend the second option to include investments made through intermediaries specializing in venture capital investments. The second and third options have both been implemented in various forms during the past decade by the Ontario government, initially in the form of

7 This argument is developed at greater length in John Bossons, 'The Ontario Proposals for a Small Business Tax Incentive', Canadian Tax Journal, 19, May-June 1971, 173-84.

tax incentives and (since 1979) in the form of a grant program for investments by individuals. The current program is described in a subsequent section.

Turning now to the broader question of the tax treatment of risky investments other than in new ventures, two issues arise. The first is the extent to which tax losses occur at the corporate level which cannot be offset against other sources of income. This issue is in principle the same as in the case of new ventures, though no special programs have been developed as offsets. The second is the extent to which riskiness arising from the unpredictability of the firm's future market value is either exacerbated or offset by the way in which capital gains are taxed.

The effect of the capital gains tax on risk-taking has already been described in Chapter 12. As noted there, the primary negative effect of the capital gains tax on risk-taking is the result of restrictions on the deductibility of capital losses from other sources of income. Offsetting this is the incentive for risk-taking provided by the lower rate of tax levied on capital gains.

The negative effects on risk-taking resulting from restrictions on the deductibility of capital losses will be effectively eliminated by the adoption of the Lortie Committee's recommendation for a Registered Shareholder Investment Plan (RSIP), in which taxable capital gains will exclude the inflation component but be taxed on a modified accrual basis under which the existing restrictions in loss deductibility will be removed. Since the federal minister of finance has announced his acceptance of these recommendations,[8] the capital gains tax will no longer discourage investments in shares of risky companies which are listed on a Canadian stock exchange. However, the distortions resulting from loss deductibility restrictions will continue to apply to shares of private companies which will not be eligible for inclusion within an RSIP. Unless the RSIP plan is extended to include shares of private companies, the elimination of these distortions on public companies will have the perverse effect of worsening the position of new and growing small firms. This implies an expanded future need for financing assistance programs that remove or offset the effect on small firms of the distortions arising from restrictions on loss deductibility.

The third way in which loss deductibility restrictions affect risky

8 Economic Statement of the minister of finance, Ottawa, October 27, 1982.

investments is through reducing the extent to which tax incentives may be utilized. Companies that are in a tax loss position are unable to lower their current taxes by utilizing tax incentives. In effect, this compounds the cost of a temporary failure, since a company generating a loss not only sustains a reduction in accumulated earnings but also loses its ability to reduce the after-tax loss of new capital goods that would otherwise be afforded by tax incentives.[9] This further increases the effective riskiness of a risky venture, thus contributing an additional disincentive that reduces risk-taking.

The interaction of tax incentives with restrictions on loss deductibility and transferability is a serious problem. It not only distorts the allocation of capital but also reduces the effectiveness of tax incentives, particularly during periods of slack aggregate demand in which corporate profits are lower than normal.

CAPITAL MARKET IMPERFECTIONS

Government aid to small and especially new businesses is often justified on the basis that the financial markets contain distortions that make it more difficult for new firms to obtain financing. Two categories of capital market imperfections are usually distinguished. First, there is the situation in which the market does not clear because price does not adjust to equate supply with demand, with the result that rationing by means other than price occurs. Second, there is the situation in which the market clears but at a price in excess of the opportunity cost of capital as a result of market or government-induced distortions such as tariffs, subsidies, monopoly control of the credit market, and legal restrictions.[10] It would appear that the most effective approach to the latter problem would be to remove the causes of the distortion. However, this is a facile answer to a bundle of extremely intractible problems inherent in the existing structure of the economy as modified by massive government intervention -

9 The importance of this should not be understated. In any year, approximately one-half of Canadian companies are in a non-taxable position. Moreover, during a period of high interest rates such as the present, the number of companies with positive taxable income is further reduced, thus further decreasing the aggregate effectiveness of tax incentives.

10 See Edward Hughes, 'On "Gaps" in Capital Markets', prepared for the Small Business Financing Review, Department of Industry, Trade and Commerce, Ottawa, March 1982, 1.

intervention that has myriad rationales, some more persuasive than others.

The market may not clear, in the first of the two situations cited above, for at least three reasons: because of dynamic rationing that arises when there is a significant time lag in price (interest rate) adjustments when the demand for funds is rising (i.e., when the economy is expanding); because of implicit contracts that may be freely entered into whereby the borrower and lender agree to limit the variability of rates; or because of interest rate restrictions where the lender cannot charge above a certain rate, which leads to unsatisfied demand. The last is of particular importance, and includes restrictions which are self-imposed (for example, banks may not wish to lend to their very high risk customers for fear of being accused of 'gouging'). Often the effects of interest rate restrictions are hidden by virtue of the fact that the rationing devices used by the lender typically consist of stiffer collateral requirements or screening standards rather than explicit quotas or queues.

Beyond these sources of credit rationing lie a number of problems which arise not so much from the riskiness of small business investments as from the cost to investors of evaluating them. Firms are likely to have specialized knowledge about their prospects that is neither readily available to investors from independent sources nor trusted if provided to investors by the firms themselves. As a result, there are important differences in the information available to borrowers and lenders. These differences in information are reflected in many institutional devices used by lenders to reduce their need for information, such as the use of collateral security and restrictive covenants. The cost and limited availability of information to lenders is of particular importance in the case of small firms, both because the cost obviously declines relative to the size of the loan as the loan amount rises and because the availability of information on a company also tends to increase markedly with company size. Large companies dealing with many suppliers of capital generate a market for information about themselves which in turn leads to the creation of information-suppliers that reduce the cost of information to any single source of capital. This market information is of particularly obvious importance in the case of large public companies.

The effect of company size is only one of the factors influencing the market for information about a company and its prospects. Additional economies of scale potentially arise in connection with the number of similar companies and with the degree to which lenders or their advisers may be

able to specialize in particular types of companies for which similar information is required. Since such economies of scale imply that part of the benefit of making venture capital investments is the creation of a wider market for information that reduces the riskiness of financing future new ventures, there are externalities in the venture capital market which potentially justify government subsidy either of such investments or of the provision of information for analyses of prospective investments.

The size of the venture capital market affects costs of venture capital in other respects as well. The extent of risk pooling is closely linked to the availability and cost of information, with the ability to reduce lending costs through pooling risks an increasing function of the size of the lending market.[11] This provides additional reason for government subsidies that increase the size of the market.

A final implication of information costs is that the higher risks which lenders consequently face in dealing with new small firms imply that the cost of funds for such firms must be substantially higher than for either large firms or for the government. These risks are partly the result of liquidity constraints faced by these firms as a direct consequence of high information costs for lenders. The liquidity constraints exacerbate risks both for previous lenders and for the firm's shareholders, through decreasing the firm's ability to adapt to temporarily unfavourable circumstances. Since innovations made by firms which fail are often picked up by other firms, the social cost of business failure is not as high as the private cost. The importance of liquidity constraints for small firms provides a rationale for tax deferral provisions for small businesses, such as those implied by the low rate of tax on earnings retained within a firm. (It does not of course provide any rationale for tax concessions on income paid out to shareholders for their consumption.)

All in all, there appear to be some significant financing impediments for new small businesses that warrant either government intervention and/or the correction of existing policies that have adverse affects. Whether special provisions that could only be incorporated within a separate Ontario PIT would significantly augment existing policy options is a question that remains to be addressed. The 'answer' hinges largely on the cost effectiveness of other existing or potentially available means. The possible forms government aid can take include (1) direct government

11 The importance of risk pooling was discussed in Chapter 12.

assistance in the form of subsidies or tax credits to the entrepreneur, (2) government stimulation through subsidies or tax credits to investors who invest directly in new small firms, or (3) subsidies or tax credits applied to investments in venture capital companies that in turn could invest in prescribed types of small enterprises. Support could be given to all qualifying firms, as is the case with the small business tax relief provided by the federal and provincial CIT system, and/or to specific firms, as is done by the Ontario Development Corporation. With these choices in mind, it is useful to examine Ontario's existing approaches. If they are cost effective, a possible economic rationale for the development of a separate Ontario PIT would be eliminated.

EXISTING PROGRAMS

In addition to a number of tax provisions that purport to assist new, small enterprises, Ontario has two important programs also directed to this end. These are the Small Business Development Corporations program (SBDC) and the provision of loans for the expansion of existing enterprises through the Ontario Development Corporation (ODC).

Ontario's Small Business Development Corporations Program[12]

In Ontario, a key vehicle for providing investment incentives to small businesses has been the Small Business Development Corporations Act introduced in the 1979 budget and designed to replace its unsuccessful predecessor, the Venture Investment Corporations Registration Act. The new act has the same goals as the old: to increase the supply of venture capital and managerial expertise to small businesses and to ensure the availability of equity capital to new enterprises.[13]

SBDCs are essentially venture capital companies that serve as conduits through which investors (corporate and individuals) can channel funds to qualifying small businesses. The purchasers of SBDC equities (these proceeds are the source of funds for the SBDCs, which are, in turn, sources of funds for the qualifying small businesses) receive a concession of 30 per cent of the cost of SBDC securities. This is pro-

12 For comparison with similar Quebec provisions, see Appendix 13A.
13 See the Ontario budget, 1979, 10.

vided in the form of a tax credit for corporate shareholders and a grant to individual investors, a distinction that raises several questions. Ministry officials claim that grant cheques are issued to individual investors within fifteen working days after an application is approved. On the other hand, a tax credit can take over a year to be returned to a corporation. It might be more equitable, and easier, to keep the program within its budget if this arrangement were replaced with a system of grants only. Recapture of the incentive from the SBDC is provided for upon the dissolution or winding up of the SBDC or upon the purchase or acquisition by the SBDC of its shares from the shareholders. The SBDC in turn must invest in businesses under a certain size in specified areas such as manufacturing.

Under the SBDC Act, several conditions for initial registration of an SBDC must be met.[14] Chief among these conditions are those that require the equity share structure to be no par value shares issuable for an aggregate consideration of between $100,000 and $5,000,000, or $10,000,000 in the case of a public SBDC. In addition, at the time of registration, the SBDC must have raised actual equity capital of $25,000.

The SBDC's actual amount of equity capital must be increased to at least $100,000 after the first year and thereafter remain between $100,000 and $5,000,000, or $10,000,000 in the case of a public SBDC. By the end of the first year after registration 40 per cent of the SBDC's equity must be in 'eligible investments'. This must rise to 70 per cent by the end of the second year.

To qualify as an eligible investment under s. 9 of the SBDC Act, an investment must be made in a small business with fewer than 100 employees that pays at least 75 per cent of its wages and salaries in respect of operations in Ontario. The small business must also be engaged primarily in manufacturing and processing, tourist activities, book publishing, or research and development. A small business is considered to be primarily engaged in an activity if at least 50 per cent of its combined assets and labour are engaged in that activity. The SBDC program thus attempts to channel the relief offered into certain selected areas rather than to improve the investment climate generally.

14 The technical requirements are taken from the Small Business Development Corporations Act and from an article by David Poynton, 'A Review of Ontario's Small Business Development Corporations Act, 1979', Canadian Tax Journal, 27, 534.

Other requirements include prohibition of the small business using the money to relend, invest in land, or reinvest outside of Canada. The SBDC is restricted to holding 49 per cent of the small business, though it can take preferred shares. An 'eligible investment' could cease to be one if, for example, the small business changed its type of activity or paid more than 25 per cent of its wages outside Ontario. In these circumstances, the investment would remain eligible for two years. After that date, the SBDC could find itself in danger of slipping below the 70 per cent eligible investment requirement unless new eligible investments were found. A small business does not become ineligible until it reaches 200 employees, and in that special instance five years can elapse before the SBDC must take corrective action. If an investment is no longer eligible, the SBDC can sell it or increase its equity capital so that ineligible investments are less than 30 per cent. These rules indicate that the intent of the program is to promote rapid growth of small businesses by subsidizing capital raised for operating costs. When the size of the investment grows beyond a certain point, the SBDC is expected to divest itself of the holding.

Obviously the tax treatment of a grant is crucial. If the federal government were to tax the grant, it would significantly lower the attractiveness of the program. As the result of Ontario government negotiations with the federal government, the SBDC program has been prescribed under Regulation 6700 of the federal Income Tax Act. This means that the grant will only be taken into account to lower the amount of a capital loss up to the amount of the grant. The grant itself is not taxable, nor does it give rise to any capital gain. If the grant were not prescribed under Regulation 6700, its effect would be to reduce the cost base of the shares, resulting in a larger future tax on capital gains realized on the investment.

The SBDC program attempts to create investment incentives to help particular segments of the economy. Unlike most other programs, it does not give direct aid to the small businesses targeted for help. After the initial push to investors through grants and tax credits, the marketplace takes over with SBDCs looking for attractive investments; though this occurs under the direction of the extensive set of rules touched upon above. The government does offer a newspaper designed in part to bring together SBDCs and small businesses, but its ongoing supervisory-advisory role is quite minimal except with the dissolution of the SBDC

or contravention by the SBDC of the spirit of the act.

Despite its small-scale approach, the SBDC program itself has become quite large and active, sometimes exceeding its budget. As of July 31, 1981, there were 284 SBDCs registered, 41 deregistered, and 448 investments in small businesses totalling $99 million.[15] Issued capital of the SBDCs totalled $109.7 million. This illustrates fairly rapid expansion,[16] in contrast to the career of the predecessor program under the Venture Investments Corporations Registration Act, which did not see a single corporation registered in fourteen months.

The Ontario Development Corporation

Unlike the CIT provisions, which are available for all new (profitable) small corporations, or the SBDC provisions, which are also available for all corporations that meet the legislated eligibility requirements, the Ontario Development Corporation empowers the ministry to make loans and provide loan guarantees to specific firms that meet some extremely general criteria related to the encouragement of exports, employment, and high technology investments. The cost per job created, the region, and the cost of infrastructure to be provided by the province are among the items considered.

In practice many of the loans or loan guarantees have been provided to firms in financial difficulty. In fiscal 1980-81, loans and loan guarantees totalled $109 million (an amount only $10 million greater than SBDC financing), with almost $33 million disbursed in direct loans.[17] Many of the loans were at low or no interest, interest and principal deferral, or straight loan forgiveness.

THE RELATIVE COST EFFECTIVENESS OF EXISTING MEASURES

Investment tax credits were found to be more cost effective than existing dividend tax credits as a potential mode of full integration of PIT and CIT

15 These figures are taken from a Small Business Development Corporation 'Fact Sheet', Ontario Ministry of Revenue, July 31, 1982. Administrative costs to the ministry in fiscal 1980-81 were less than $2.1 million. See Ontario Public Accounts, Vol. 1.

16 The bulk of the funds raised by SBDCs has been from the sale of equities to individuals who thereby obtain a cash grant equivalent to 30 per cent of the cost of the shares.

17 Ontario Development Corporation, Annual Report, 1980-81, Ontario Ministry of Industry and Trade.

for residents. This section briefly examines the evidence derived from the TAX model (see Appendix 11A) concerning the cost efficiency of the existing provisions designed to assist the financing of new, small businesses using a hypothetical system of ITCs. (The ITCs are hypothetical only in the sense that there would be no exclusions and the rate would not necessarily be approximately 7 per cent, as is presently the case under the existing system.)

The estimated actual revenue costs of the existing provisions as they apply to Ontario shareholders are shown in Table 13.1.

The limitations of the TAX model (some corporate concessions - e.g., accelerated CCA - are not yet included in the model, nor are the provisions unique to particular industries, such as mining) and lack of crucial data do not permit a direct assessment of the cost effectiveness of these tax expenditures and direct expenditures (the SBDC grants). However, it has been possible to simulate the effects using the assumptions of the model, once again assuming that the marginal investor is a resident[18] with a marginal rate of 50 per cent. The resulting relativities, shown in Table 13.2, provide a reasonably reliable indication of the direction and magnitude of the differences. The detailed results and the methodology and assumptions can be found in Appendix 11A.

The simulations for the small business deduction are relatively straightforward: the effective small business tax 'rates' specified in the preceding footnotes were substituted for the non-concessionary federal and provincial corporate rates of 36 and 14 per cent respectively. The small business deduction has a lifetime limit of $1 million. Obviously, in order to obtain any meaningful results it was necessary to assume that the investment was not affected by this limit.

The simulations for the SBDC credits of 30 per cent to investors purchasing shares in approved venture capital companies were derived using an indirect method, in order to isolate their impact from other individual changes. In the simulations carried out in Appendix 11A, it is assumed throughout that 30 per cent of the cost of new investments is financed through the sale of equities. The 30 per cent direct credit to investors with respect to the costs of their purchases of the equities of venture capital companies reduces the cost of new equity financing to

18 Because the small business deductions and the SBDC credits are available to non-residents, the question of residence is not as material as it is for the DTC or full integration of PIT-CIT.

TABLE 13.1
Estimated revenue costs of existing incentives to small businesses, 1979

	(million $)
Small business deduction	
Federal[a]	1,100
Amount attributable to Ontario shareholders (40%)	440
Ontario[b] own CIT small business deduction	63
	503
Assuming the 'tax holiday'[c] for small business applicable to 1982 and 1983 had been in effect	187
	690
Small Business Development Corporations cost to Treasury for grants and corporate tax credit was $10 million in the period 1979-81 as an average annual cost	10

a For corporations, the effective federal rate on qualifying small businesses corporate income was, in 1979, 46% (basic), -10% (Provincial Abatement), -21% (Small Business Deduction), +9% (Provincial Tax Rate).

b For Ontario corporations in 1979, the normal corporate rate of 12 per cent was in effect reduced to 9 per cent.

c The effective low rate for corporate small businesses was reduced to zero for a two-year period, 1982-83.

qualifying small businesses by 30 per cent, assuming that competition forces the venture capital companies to pass the benefit through to the new small businesses they help to finance. This is equivalent to a reduction of 9 per cent (30 per cent of 30 per cent - the latter being the fraction of total financing accounted for by equity sales) in the cost of the physical asset. This, in turn, is equivalent to an investment tax credit of 9 per cent, where the ITC is not deducted from the capital cost allowance. This is approximately equal to an ITC of 16.2 per cent when, at present, the ITC is deducted from CCA. The simulation results for the SBDC provisions are, therefore, the same as would be obtained with an ITC of 9 per cent.

The small business deductions are, these simulations estimates suggest, much less effective per dollar of revenue forgone than the system of ITCs or SBDC credits. This is not surprising, because both provide the incentive efficiently: only new investments get the benefit and not the

TABLE 13.2
Estimated effects of four concessionary provisions considered one at a time under TAX model assumptions[a]

	Percentage changes		
	Revenues	Net investor income	User cost of capital
Small business deduction			
without tax holiday	-30.0	42.6	-14.0
with tax holiday	-40.2	57.4	-16.8
SBDC credits[b]	-10.5	17.0	-16.5
ITC @ 7 per cent	-4.52	7.35	-7.15

a It is assumed that concessions apply to all real investments of all corporations.
b Equivalent to ITC of 16.2 per cent.

returns from old investment, as under the small business deduction provisions. For every 1 per cent reduction in revenue (or increase in government expenditures), an ITC or SBDC reduces the cost of capital by nearly 1 percentage point. The small business deduction requires a 2 per cent drop in revenues to accomplish approximately the same result.

However, these comparisons ignore the liquidity-enhancing dimension of the small business deduction. This deduction increases net investment much more than do the ITCs or SBDCs. In difficult economic times liquidity is a most material consideration, not only for but especially for new, small businesses.

To round out the picture, simulations were carried out to assess the effects of all of the concessions taken together relative to a hypothetical 'base case' world where none of them were in effect. The results are given in Table 13.3.

Although the effects of the combined concessions are certainly very substantial, the fact that they are not larger than they are reflects the fact that to some degree their individual effects are somewhat weakened by the existence of the other concessions. A particular concession cannot subtract what another has already subtracted. This interaction of concessions has not been explored for this report.

In short, the findings reported here suggest that ITCs and SBDC instruments are more cost effective than the small business deduction in

TABLE 13.3
Estimated combined effects of four concessions under TAX model assumptions
($ per $1,000 of real corporate investment)

	Revenue	Net investor income	User cost of capital
Case A [with: DTC (as given) ITC (7 per cent) SBDC (30 per cent) Small business deductions with 'tax holiday']	17.9	79.4	13.6
Case B (with none of the above)	69.7	26.4	23.7
Percentage difference: A relative to B	-74.3	200.8	-42.6

reducing the user cost of capital and hence stimulating real corporate investment. The small business deduction is, however, more cost effective in increasing corporate liquidity - as might be expected.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. The Ontario Small Business Development Corporations Program provides an effective way of providing subsidies to offset the effects of tax distortions and capital market imperfections. Together with the low rate of corporate tax on income of small Canadian-controlled private corporations, the SBDC program meets the most critical needs for subsidies that might alternatively be built into an independent Ontario personal income tax.

2. There are potential improvements to the personal income tax that would eliminate the distortions remaining for investments in small businesses that are not made through SBDCs. The most desirable reform would be to allow unrestricted deductibility of allowable realized capital losses to exceed unrealized gains accrued on other capital assets owned by the investors. However, as with SBDCs, programs of direct grants to individuals who invest directly in small ventures could be devised that would achieve the same objective.

3. In terms of targeting individual corporations, regions, and product types, as well as hitting marginal investment rather than investment which would have taken place anyway, it would seem that specific expenditure programs, such as those run through the ODC and its Quebec counterpart under the Quebec Business Development Act (discussed in Appendix 13A), are preferable. The mere existence of the Quebec program and its funding level indicate that PIT programs are not viewed as necessarily better substitutes for this type of expenditure program even when (as in the Quebec program) the expenditures are taxable federally. Furthermore, where expenditure programs have been introduced as substitutes for programs run through the federal tax collection system, they have often been able to escape federal taxation.

4. The benefits to be derived from an independent provincial income tax in the form of an enhanced ability to deliver investment incentives are, on balance, relatively marginal. They do not provide much support for the establishment of a separate personal income tax system in Ontario.

Appendix 13A
The Quebec system of tax-related investment incentives[1]

Quebec has a number of incentive programs which operate through the personal and corporate tax systems, as well as a direct expenditure program. An incentive to purchase new issues of voting stock of Quebec-based corporations has been created by allowing a deduction from income equal to the value of new shares bought. In 1979, the Quebec Stock Saving Plans (QSSP) accounted for almost $50 million in deductions. Another incentive operates through the SODEQs or Quebec Business Development Corporations, which are similar to Ontario's SBDCs. These corporations are entitled to issue certificates with new shares. These certificates may be turned in to the Quebec government for a 25 per cent refund. In 1979, with the implementation of the QSSP, SODEQ shares also qualified for deductions from taxable income at the provincial level. In fact, after two years, the shareholder can withdraw his SODEQ shares from the QSSP with no tax penalty and put them in an RRSP, avoiding further provincial and federal taxes. The sum of these benefits can exceed the purchase price of the share by as much as 25 per cent, depending on the taxpayer's marginal tax rate. These are potentially very attractive terms for investors. However, there are many restrictions and their growth has been slow.

Quebec also runs a package of grant and financial assistance programs. These are governed by a single piece of legislation entitled the Quebec Industrial Development Assistance Act. Some Quebec expenditure items are subject to federal tax, but they exist in Quebec as well as the other provinces, indicating that PIT and expenditure programs are not completely interchangeable. The government must feel that the extra flexibility in targeting individual projects under expenditure programs off-

1 Prepared by Ronald Hood and Peter Quance.

sets the costs of federal tax on transfers. Basically it is designed to stimulate manufacturing, exports, tourism, and high technology investments through loans and grants. These objectives are pursued through the Quebec Industrial Development Corporation, which is very similar to the Ontario Development Corporation. The dollar value of these programs is not overwhelming (less than $200 million in 1980-81). This does not mean the program has an insignificant influence on the size, nature, or location of new investment. Indeed, individual terms offered for specific projects may be more effective at the margin than blanket subsidies to saving brought about through the personal income tax system.

THE QUEBEC STOCK SAVINGS PLAN

The QSSP is the least restrictive of the investment incentive programs. It has no direct counterpart in any of the other provinces. Introduced in the March 1979 budget, it provides that new issues of common stock with voting rights entitle the purchaser to a tax deduction. The corporation issuing the common stock must:

- Have at least five full time employees.
- Have a wage bill of which at least 50 per cent is paid to Quebec residents. It does not directly address the problem of small business equity financing, but it does enhance the investment climate and can be combined with the SODEQ program to create a powerful stimulant for small business investment.
- Have not more than 50 per cent of its assets in the form of other corporate shares, bonds, other property claims, or deposits.

In addition, SODEQ corporations and corporations, a majority of whose voting stock is owned by savings and credit unions, are eligible to issue qualifying common stock.

Certain restrictions apply to the holder of the stock as well. He may deduct up to the lesser of:

(a) 20 per cent of earned income less contributions to RRSPs and RHOSPs;
(b) $15,000 less contributions to RRSPs and RHOSPs.

The taxpayer may withdraw his investment from the QSSP after two

full years have elapsed without having to bring any extra amounts into income.

There is generally a premium on new issues, since Quebec residents bid the price of the stock up to reflect the tax benefits. The fact that this premium is usually less than the value of tax benefits indicates that taxpayers expect some capital loss offset. Nevertheless, the premium also means that firms are getting capital at reduced cost, which benefits both new and existing stockholders.

A very important feature of the QSSP, not shared by most other incentive and assistance programs, is that benefits do not in any way affect federal tax payable. The QSSP incentive operating through the provincial PIT system does not affect federal taxes, so there is no need to have the program prescribed under the federal Income Tax Act.

A total of twenty-nine issues (including SODEQ issues) by corporations operating in Quebec were offered under the QSSP in 1979. Of these, seven were publicly traded common stock, seven were SODEQ (also public), six were issued to stockholders, and nine were issued to employees.[2] Information on the selling prices and total value of these issues is not complete, since some of them were not public. It is clear, however, that only a fraction of the purchases of eligible shares was actually claimed for tax purposes. In 1979, QSSP deductions for all taxpayers totalled $49 million, while CP Investments issued over $157 million by itself. The total issued by all companies is well in excess of $300 million. This indicates that large portions of the shares are bought by persons or corporations not eligible or not bothering to claim the special tax concessions. This fact is very important in assessing the relative merits of the Quebec and Ontario venture capital incentives. Virtually all the SBDC shares issued in Ontario generate grants, while only a small portion of the QSSP shares generate tax deductions. Purchasers of QSSP shares who fail to get tax deductions are pension plans, corporate buyers, and insurance companies, persons with no taxable income, and out-of-province buyers. The pension funds and corporate buyers buy large blocks of stock and tend to pick up the large issues.

If no deduction is being generated, there is of course no incentive. Where there is a premium on the new issues, those not eligible for the tax

2 Montreal Stock Exchange, 'Quebec Stock Savings Plan Evaluation and Recommendations', January 26, 1982, 2.

benefit may reduce their purchases. Rather than stimulating a great deal of new investment, the QSSP may have the effect of inducing persons with taxable income, resident in Quebec, to switch their portfolios away from out-of-province stocks towards eligible stocks, while corporations, non-taxable individuals, and non-residents do the reverse. The narrower is the class of persons who can benefit, the more the incentive plan will tend to cause simple switching, with small premiums paid for new issues and large rents earned by those who benefit. In Ontario, the class of taxpayers who can benefit under the SBDC program is much wider, since it includes taxable and non-taxable persons and corporations.

Corporations have recognized the need to channel new issues to those who can benefit. For this reason, they have established a rapidly growing number of employee and stockholder plans for purchase of new stock. These plans are also designed so that the reinvestment of dividends also qualifies for tax deductions. People in the investment community feel that these types of plans are likely to grow considerably in the future and will contribute to taxpayer awareness of the tax advantages of the QSSP.

By the end of 1981, there were some 45,000 QSSP accounts in Quebec with an average value of $7,392.[3] Of persons filing returns, only about 1 in 70 has ever opened a QSSP account. The accounts are concentrated in the upper income levels: 81.5 per cent of persons with accounts have income in excess of $30,000 and the incomes of 50 per cent exceed $45,000. The regressive nature of these tax benefits was in part intentional because it was felt that upper-income professionals, who are more heavily taxed in Quebec than in Ontario, were leaving, causing a skill shortage in Quebec. The QSSP, it was hoped, would redress this imbalance. It is interesting that the relatively greater tax burden borne by these people in Quebec is itself a product of Quebec's separate personal income tax system. To argue that a separate PIT is necessary to create programs which can undo these relative tax effects is, of course, circular reasoning.

Quebec's SODEQ and Ontario's SBDC programs are quite similar. Quebec's legislation provides for the registration of SODEQs designed to develop Quebec enterprise by specializing in supplying small and medium-sized manufacturing businesses with risk capital. Investors are allowed a provincial tax credit of 25 per cent of the cost of SODEQ shares up to $25 per share. The SODEQ program is quite small. Only $22.3 million of

3 Ibid., 3.

stock has been issued since its inception in 1976. The tax credit amounted to only $750 thousand in 1979. The SODEQ law stipulates a 25 per cent tax credit rate, so the $750 thousand represents at least $3 million in new shares in 1979. Some differences in eligibility conditions and a relatively higher growth rate in Ontario have made for a greater increase of SBDC shares, despite the additional effective subsidy on SODEQ shares available through the QSSP program.

The SODEQ and SBDC programs differ in a few significant respects, which helps account for the relatively better success of the Ontario program. The subsidy rate is higher (30 per cent instead of 25) in Ontario. In Quebec, the subsidy is a tax credit. In Ontario, it is a cheque payable immediately for persons and a tax credit for corporatons. As discussed, the corporate response has been very small in Ontario, suggesting that this cash versus credit distinction is important. There are only 12 SODEQs compared to 243 SBDCs, despite the longer lifetime of the SODEQ program, which started in 1976 - three years before its Ontario counterpart. A total of $99 and $22 million worth of shares have been issued in Ontario and Quebec respectively. Again, these are very small numbers. The constraint on growth seems to be a shortage of small firms with growth potential wishing to issue stock. In Quebec, which is growing less quickly than Ontario, the shortage is probably more acute. All SODEQ shares were issued under conditions which made them eligible to register as QSSP assets, and probably most of them are in fact so registered. The total tax benefit of the SODEQ-QSSP combination is higher than the value of the grant in Ontario. The relatively greater penetration of Ontario's programs seems therefore to depend on factors other than the size of the subsidy rate.

Both the SBDC and the SODEQ programs are flat-rate subsidy programs - unlike the QSSP program, which operates through reductions of taxable income, making it more regressive. In terms of influencing marginal behaviour rather than by rewarding investment that could have taken place anyway, there is really very little to distinguish the flat-rate system from the deduction system.

14
Interprovincial economic barriers and tax harmonization in a federal state[1]

Canadian discussion of the possibility of more independent provincial income taxes often begins with some appropriate citation from the findings of the Rowell-Sirois Commission in 1940. One recent commentator, for example, noted that the Commission found that the different provincial personal income taxes existing in the 1930s '...presented not only problems of serious horizontal inequities but also practical obstacles to freedom of movement... Discriminatory tax provisions were also common... Divided jurisdiction also served to emasculate the ability of the federal government to enter into effective international taxation agreements...'[2] Matters were even worse with respect to corporate income taxes, and the Commission's general conclusion was that unless the provinces withdrew from the income tax field completely, there would be '...increasing friction between governmental units, increasing double taxation, increasing arbitrary, discriminatory and confiscatory tax levies, increasing costs of tax compliance, increasing disparities in taxation burdens and government service levels between regions, and increasing burdens on and reduced opportunities open to individuals.'[3]

The Second World War eliminated all such problems for a period because it resulted in the introduction of a completely centralized income tax system. Although after the war - and particularly in the last twenty years - the importance of the provinces in the income tax field has increased substantially, for the most part the system of provincial income

1 This chapter was written by Richard M. Bird. The first two sections contain partial summaries of two Technical Papers prepared for this Report: 'OEC PIT Reference: Common Market Aspects', by Frank R. Flatters; and 'Policies toward Tax Harmonization', by Wayne R. Thirsk.

2 Wayne R. Thirsk, 'Tax Harmonization in Canada', paper for Conference on State and Local Finance, Cambridge, Mass., September 1980, 12.

3 Report of the Royal Commission on Dominion-Provincial Relations, Book II-Recommendations (Ottawa: Queen's Printer, 1940), 134.

taxes, particularly personal income taxes, remains far more uniform in Canada than in other federations such as the United States, which has recently been called a 'tax jungle' by the federal minister of finance.[4] Perhaps on the premise that it is obviously a good thing to stay out of a 'jungle', there appears to be wide agreement in Canada with the recent federal argument that 'the conjunction of a high degree of decentralization and a high degree of harmonization in income taxation is a great achievement - perhaps one of the most remarkable accomplishments of Canadian federalism.'[5] Almost every recent assessment of the tax harmonization issue in Canada has come to the conclusion implicit in this statement, namely, that tax 'harmonization' is unquestionably a good thing, and that more of it is therefore better than less. To avoid the development of a tax 'jungle' and the further fragmentation of the Canadian economic union, either a fundamentally uniform (and therefore inevitably rather centralized) tax system such as now exists must be maintained, or, if less uniformity is to be tolerated, at the very least a 'code of good conduct' based, for example, on some rule of 'nondiscrimination' is said to be needed.[6]

The first section of this chapter picks up the 'common market' argument and sets out briefly the conditions under which differential taxes may constitute an aid rather than a barrier to economically advantageous interprovincial trade and factor movements. In the Canadian setting, although it may be argued that some regional differentiation is in fact necessary to maintain the economic advantages attributed to common markets, it seems unlikely that an independent Ontario personal income tax would have much to contribute in this respect.

This discussion is followed by a brief review of the meaning and methods of tax harmonization in a federal state. As noted there, not all harmonizing measures are necessarily either desirable or acceptable in a federation. Indeed, as well as the political case for a true, provincially diverse federalism in Canada, there is a case to be made for independent provincial personal income taxes on the basis of both equity and efficiency. Greater local autonomy in this regard may of course involve

4 Allan J. MacEachen, Federal-Provincial Fiscal Arrangements in the Eighties (Ottawa: Department of Finance, 1981), 14.

5 Ibid., 12.

6 See, for example, Parliamentary Task Force on Federal Provincial Fiscal Arrangements, Fiscal Federalism in Canada (Ottawa: Queen's Printer, 1981), and Economic Council of Canada, Financing Confederation Today and Tomorrow (Ottawa: Ministry of Supply and Services, 1982).

higher costs - for example, in the form of efficiency losses due to inter-provincial differentials - but these costs may be considered part of the price of our particular form of nationhood rather than a complete social waste.

Nevertheless, while it seems likely that Canada could tolerate a somewhat greater degree of diversity in provincial income taxes than exists at present, it is far from clear whether the advantages that might be achieved from such diversity would exceed the possible costs. Among these costs might be the need to develop a much more elaborate system of horizontal coordination of provincial taxes, particularly on capital income, than now exists. An illustration of some of the issues that might arise in this respect as a result of different provincial treatment of corporate-source income was set out in Appendix 9D.

TAX-EXPENDITURE DIFFERENTIATION AND THE CANADIAN COMMON MARKET[7]

The case for a Canadian common market rests on well-known arguments concerning the gains from free trade and factor mobility. Any fiscal (or regulatory) measure of provincial or federal governments that has the effect of discriminating between activities (residency, consumption, employment, production) on the basis of the province in which they occur would appear to constitute a violation of the common market principle. However, if the effects of unequal provincial fiscal capacities are taken into account, it is by no means so clear that provincial differences in personal income tax systems will add significantly to existing barriers to the free movement of goods, people, and capital between regions in Canada.

In a common market, competitive forces will in principle ensure that users of goods obtain them from the lowest-cost sources of production and that all production occurs according to the best methods available and in the least-cost locations. Restrictions in the interregional flows of goods will induce consumers to substitute in favour of inferior goods and/or to obtain them from higher-cost local sources. Interference in the inter-regional allocation of factors of production will lead producers to use higher cost methods of production and/or cause production to take place

7 This section is drawn from Flatters, 1982. See also the forthcoming OEC study, Federalism and the Canadian Economic Union, edited by J.R.S. Prichard, et al.

in higher-cost locations. This is simply the familiar argument concerning the gains from trade.

The main difficulty with this argument is that it holds only in the absence of other imperfections in competitive market forces. Once some imperfections exist, the introduction of other imperfections, including violations of the common market principle, might actually improve rather than reduce the efficiency of resource allocation. However, although there undoubtedly exist many competitive market imperfections in the Canadian economy, it would be incorrect to use this fact alone as a basis for regionally discriminatory policies that would weaken the common market.

In the first place, even if, in the presence of existing market imperfections, a particular set of violations of the common market principle would improve economic efficiency, the introduction of the appropriate discriminatory policies by one province would almost certainly lead to further such policies elsewhere. Restrictions in interprovincial trade or in interregional factor movements often have the effect (whether real or simply perceived) of benefiting groups in one province at the expense of residents of other provinces. If Ontario succeeds in inducing an automobile manufacturer to set up a plant in Ontario rather than Quebec, workers or taxpayers in Ontario might be considered to have gained at the expense of similar persons in Quebec. It would be natural for the government of Quebec to escalate its protectionist policies to make up for this loss. This tendency of protection to breed further protectionist policies has been demonstrated over and over again throughout the world. When all the dust has settled, the discriminatory policies that are in place may be very different from those that initiated the process, but there is little reason to expect that they will resemble the policies that might have been justified on second-best grounds.[8]

Secondly, even if it is possible to introduce protectionist policies that are justified on these grounds, there are almost invariably superior policy instruments available for the purpose. In general, the optimal second-best policy is one that is closely connected with existing market imperfections. For instance, if some sort of dynamic external effects resulted in under-

8 When market imperfections exist elsewhere in the economy, the 'first best' policy with respect to, say, the taxation of interjurisdictional flows of corporate-source income may exacerbate the inefficiencies. In these circumstances, assuming all other sources of imperfection cannot be removed, the 'second best' tax policy may be optimal.

investment in a particular local activity, trade restriction to protect that activity might increase efficiency. The optimal second-best policy, however, would be to subsidize the externality-generating activity directly. The only type of market imperfection for which regionally discriminatory policies are the optimal second-best tool are those that are of an inherently regional nature - imperfections which distort the interregional allocation of resources. The remainder of this section examines several possible causes of such regional distortions and the appropriate policies to deal with them.

People (and other mobile factors of production) tend to move from one region to another if they (or their owners) can expect to gain by it. (See Chapter 8.) The gains from such movement depend not only on interregional differences in factor prices but also on the fiscal activities of governments. Low tax rates and/or high levels of public services tend to increase the attractiveness of a province as a place to live (or invest). To the extent that interprovincial migration (or investment decisions) are affected by differences in the net fiscal benefits (or net fiscal residual) from government activities, the interprovincial allocation of resources will be inefficient - there will be an imperfection in the market process. Such distortions can arise for a variety of reasons. They can be shown most simply by analysing the interprovincial allocation of labour.

Consider first a case in which there is no fiscal externality associated with migration. Suppose that provinces provide their citizens with services which are just like ordinary private goods: increased use of the good by one citizen reduces the amount available to other citizens by exactly the amount of the former's increased consumption. Suppose further that the provision of services in each province is financed by taxes on its residents, and that each person's share of the total tax bill is exactly equal to the share of the services he consumes; that is, there is a system of benefit taxation. Now consider the decision to migrate. Abstracting from other influences on migration, such as the costs of moving, migration between two provinces A and B will proceed until the marginal product of labour is equalized between regions. The nation's labour force is then efficiently allocated, and any interference with the migration process would reduce the nation's production and the welfare of its residents.

Suppose now that each province provides services of a kind known as pure provincial public goods, that is, goods whose total production is consumed by all residents of the province; additional residents can consume the same amount as everyone else without detracting from anyone's

consumption or requiring any additional output of the good. (Radio, light signals from a lighthouse and national defence are often given as examples of such goods.) In such a world, there is a fiscal advantage to be derived from living in a large province. The larger the population of a province, the smaller is the cost per person of providing a given level of the public good. The larger province will continue to grow through migration until the wage in the province falls sufficiently to counteract the fiscal advantage of the lower tax price of public goods.

The market imperfection in this situation arises from the fact that migrants do not have any incentive to take into account the effects of their migration on the residents of the sending or receiving region. The sending region bears a cost equal to the taxes paid by the migrant while the receiving region receives a benefit equal to the reduction in the tax burden of the original residents due to the additional taxes paid by the migrant. Only in the unlikely case in which per capita tax payments were equal in the two regions would these externalities be offsetting and the interprovincial labour allocation be optimal. This public good externality is an example of a market imperfection that is regionally specific and might well call for some violation of the common market principle. The optimal second-best policy in this case is one that interferes with the free interprovincial migration of labour. Before discussing the policies that might be appropriate, however, it is useful to mention some other sources of such market imperfections.

In the following three cases it is assumed that provincial governments provide services of a <u>private</u> good nature and distribute them in equal amounts to all residents. In the first case it is assumed that provincial services are paid for out of source-based taxes on immobile property in each province, which is owned, at least in part, by non-residents. Examples of such provincial revenue sources in Canada are the corporation income tax and revenues from natural resources. This fiscal system clearly violates the principle of benefit taxation. The residents of a province are able to obtain a positive net fiscal residual (NFR) from their government by being able to export the provincial tax burden to non-residents.

The size of this NFR depends on the per capita tax collections, and will differ from province to province owing largely to differences in endowments of taxable resource rents. The marginal product of labour will also now differ between provinces by the difference in per capita source-

based tax collections. Workers are induced to move not only by inter-provincial differences in their labour productivity, but also by discrepancies in their ability to benefit from publicly collected resource rents. Such fiscal externalities have recently become very large in Canada, particularly as a result of the oil revenues accruing to Alberta.

For the next case, suppose that provincial governments do not raise revenues from source-based taxes; all revenues are instead derived from the taxation of the incomes of local residents. However, instead of the earlier assumption that these taxes are proportional to benefits received from provincial expenditures, suppose that taxes are proportional to income. Because expenditures are assumed to be distributed in equal per capita amounts, the overall provincial fiscal systems are then progressive: those with above-average incomes receive negative NFRs while those with below-average incomes receive positive NFRs from their provincial governments. Even though the sum of the NFRs in any province must add to zero, it will now be the case that (unless the distribution of incomes is precisely identical in each province) there will be differences in NFRs between provinces for any individual. Suppose that there are two types of workers, skilled and unskilled, and that skilled persons are initially paid $20,000 and unskilled persons $10,000 in each province. Suppose that province A has twice as many skilled workers as unskilled workers, while the proportions are exactly reversed in province B. Then, if each province provides identical public services financed by a proportional income tax at a rate of 10 per cent, both skilled and unskilled persons have a fiscal incentive to move from B to A, because a progressive fiscal system will provide higher NFRs to all its residents the higher is the average level of income. The size of this fiscally induced distortion in the interregional allocation of resources depends on the degree of progressivity of provincial fiscal structures, the magnitude of provincial income tax rates, and the magnitude of per capita income differences between provinces.

So far it has been assumed that all provincial governments behave in a similar fashion. The fiscal externalities discussed arise from differences in such structural characteristics of the provinces as size, resource endowments, or average income levels. In the final example, the assumptions are reversed. Provinces are now assumed to have similar economic structures, but their governments are assumed to behave differently. In particular, one province is assumed to have a more progressive fiscal

structure than the other. For simplicity, suppose that each province has equal numbers of skilled and unskilled workers earning $20,000 and $10,000 respectively, and that province A taxes according to the benefit principle while province B has a progressive fiscal system identical to that in the previous example. In province A all workers will (by definition) receive zero NFRs from their provincial government while, with a 10 per cent tax rate, the skilled and unskilled workers in province B will receive NFRs of -$500 and +$500 respectively. Unskilled workers now have a fiscal incentive to migrate from A to B, while skilled workers face the opposite fiscal incentive. In general, when redistributive behaviour of provincial governments differs there will be a fiscally induced distortion encouraging excessive migration of rich persons to the province with the least progressive fiscal system and of poor persons in the opposite direction. Once again there would appear to be ample justification for violating the common market principle.

In general, what these examples demonstrate is that the independent behaviour of provincial governments in a decentralized federal system is almost certain to give rise to distortions in the interregional allocation of the nation's resources. Such distortions are in fact inherent in a federal system of government. They may be caused by differences in size (the public good externality from the first example), differences in resource elements (rent-induced migration from the second example), differences in average income levels (the redistributive provincial budget externality in the third example), and differences in provincial policy preferences (the redistributive budget externality in the fourth example). The importance of such market imperfections is an empirical question and depends on both the size of the distortions and the responsiveness of affected factors of production to these incentives. While the size of the public good externality is not likely to be of great significance, the magnitude of the resource rent externality is undoubtedly quite great at the present time. The size of the residence-based tax externalities in Canada probably lies somewhere between these two extremes.

Regionally discriminatory policies, including differing taxes, which counteracted the effects of such fiscal distortions would clearly increase the efficiency of resource allocation in Canada. If factors of production were completely immobile, there would be no inefficient fiscally induced migration. The problem with policies producing this result, however, is that they would also make the economy unresponsive to changes in tech-

nology, resource discoveries, and the external environment, all of which require shifts in resource allocation to take advantage of them. It would be very difficult for governments at any level to design a system of mobility restrictions (or subsidies if so required) that would exactly compensate for the inefficiencies of fiscally induced migration without interfering as well with responses to real market signals. It is even more difficult to imagine why, if they were given the power to use such policies, governments, especially at the provincial level, would have any incentive to use them in precisely the manner required to offset the fiscal distortions described above.

A second possibility would be to reduce the fiscal powers of provincial governments - for example, by restricting their legal power to collect revenues from resource rents or to redistribute income. Alternatively, the federal government might use its tax system to nullify any differences in provincial budgetary policies - for instance, by imposing higher federal tax rates in provinces with excessive resource rents and applying a different personal income tax rate structure in each province so that the redistributive impact of combined federal and provincial fiscal systems was the same across provinces. Just to describe such policies is to demonstrate their unacceptability and their incompatibility with a federal system of government such as Canada's.

A third possibility would be to introduce a system of intergovernmental transfers which had the effect of eliminating or narrowing the differences in the capacities of the provinces to provide net fiscal benefits for their citizens. This is broadly the solution that has been chosen in Canada. A properly designed system of equalization payments preserves the autonomy of provincial governments and at the same time eliminates all fiscal distortions described above except for one: if provinces differ in their redistributive behaviour, no unconditional fiscal transfer can eliminate the distortions illustrated in the simple example above; all that can be accomplished is to reduce the inefficient fiscal incentives facing one group while increasing those facing some other group. So long as provincial governments do not differ very much in their redistributive behaviour, however, a proper equalization scheme can eliminate most of the fiscal distortions arising from decentralized provincial behaviour.

Since the current Canadian program of equalization transfers is deficient in several respects, the result is that Ontario is made less fiscally attractive than it should be as a place to reside or invest. Unfortunately,

there is very little that Ontario can do on its own to rectify this situation, and in particular it is hard to conceive of anything Ontario could do in this regard by virtue of having control over its own personal income tax.

In short, the economic case for preserving and strengthening the Canadian common market is based on the gains from trade and the responsiveness of resource allocation to changes in competitive market forces. Market imperfections of a strictly regional nature are a serious source of weakness in the economic argument, however, and a regionally discriminatory intergovernmental transfer program in the form of a properly designed system of equalization payments seems necessary to reap the economic advantages of interregional factor mobility. The current equalization program may be argued to be deficient in several respects and to have the net effect of providing excessive discouragement to those wishing to reside or invest in Ontario. However, the sorts of violations of the common market principle that might result from Ontario's adoption of its own personal income tax seem unlikely to improve the efficiency of resource allocation in this sense.

TAX HARMONIZATION IN A FEDERAL STATE[9]

As was stressed by the Rowell-Sirois Commission, and many others since, tax differentials may distort the allocation of resources within a federal economy. Their removal, therefore, is often sought on grounds of economic efficiency. Measures to harmonize taxation in a federal system are commonly viewed as efforts to either reduce or eliminate the impact of inter-jurisdictional tax differentials. As noted above, tax harmonization in this sense is considered particularly important by those who want to preserve a common market for the unimpeded flow of commodities and factor services across jurisdictional boundaries, even though a case can be made that some differentials may in fact improve rather than worsen resource allocation in this sense.

While this emphasis on tax differentials is not entirely misplaced, in some ways it is based on too narrow a conception of the tax harmonization issue. A primary justification for any federal system is that it permits and encourages different expenditure choices by different provincial governments. Seen in this light, the role of tax harmonization policies is to

9 The first part of this section is based largely on Thirsk, 1982.

preserve expenditure diversity among provinces while minimizing the distorting influence of the non-uniform revenue systems that may be put in place by provincial governments. Tax harmonization policies, according to this view of the matter, protect the freedom of provincial governments to choose their expenditure patterns and levels while encouraging them to avoid inefficient methods of taxation as their source of finance.

Because expenditure policies, in particular subsidy programs, may often be close substitutes for tax measures, the effects of harmonized tax policies may in any case be effectively repealed by unharmonized expenditure programs. The notion of fiscal harmonization, accounting for the effects of both expenditures and taxes on the allocation of resources in an economy, is thus a more important consideration than tax harmonization by itself. In principle, as indicated in the previous section, it is therefore the net fiscal residual (NFR), the difference between expenditure benefits received and taxes paid by individuals and firms, that should be harmonized (or made more uniform) in a federation if the efficiency objective in a narrow sense is to be fulfilled. By itself, therefore, tax harmonization in the sense of equalization has little policy significance even in the narrowest economic sense.

When different levels of government resort to taxing the same tax base, the need for vertical tax harmonization arises to keep in check the administrative costs of collecting taxes and the compliance cost to taxpayers. The problem of coordinating the revenue systems of different governments at the same jurisdictional level is the concern of horizontal tax harmonization.

The harmonization of disparate tax systems, whether vertical or horizontal, may involve agreement on a uniform definition of the tax base or acceptance of a common rate of taxation. In moving toward tax systems that do not interfere with trade flows and resource allocation, the harmonization of tax bases is logically prior to the harmonization of tax rates. Unless there is substantial inter-jurisdictional uniformity among tax bases, effective rates of taxation will diverge even though nominal tax rates are the same. Since differences in effective rates are what matter for resource allocation, there is nothing to be gained by harmonizing tax rates unless the bases to which these rates apply are the same. Conversely, comparisons of nominal tax rate differences may be highly misleading when the definition of the tax base varies widely across different jurisdictions.

Closely related to the issue of the appropriate target for harmoniza-

tion is the question of which tax differentials are likely to distort the allocation of resources. In addition to the regional nonuniformities discussed earlier, at least two instances can be identified in which nonuniform taxes may be quite appropriate from an efficiency point of view.

If provinces and municipalities relied on benefit forms of taxation to finance the public services which they provide, and residents of these jurisdictions therefore obtained a quid pro quo for their tax payments, any tax differences that existed would reflect different provincial preferences for the consumption of publicly provided goods and services. If benefit taxation were used to finance the expenditures of provincial governments, inter-jurisdictional tax differences would arise from different preferences for public goods. Regional cost functions for public goods may vary because regional production functions for public sector outputs differ or because factor costs differ across regions. However, as long as public sector outputs are paid for by benefit taxes, neither variable tastes nor variable costs will result in a fiscally induced misallocation of resources.

Tax harmonization is also closely linked to tax incidence. As mentioned earlier, it is the jurisdictional variation in effective tax rates that is the particular concern of tax harmonization. To determine the effective tax rate on an economic agent, however, the possibility that some agents will be able to shift the burden of the tax onto others must be taken into account. In particular, mobile factors of production may be able to shift their tax burdens onto immobile factors such as land and some types of labour. A tax differential imposed on a mobile factor of production, such as capital, would then provoke no misallocation of resources, because the effective rates of taxation on capital would remain the same across different jurisdictions. The fact that immobile factors of production, under these circumstances, would consequently be burdened with unequal rates of effective taxation would also be of no allocative consequence, because by definition such factors cannot be reallocated across different jurisdictions.[10] This consideration enormously complicates the task of harmonization, since considerable uncertainty inevitably surrounds the incidence of a particular tax or tax differential in a given jurisdiction.

A fairly flexible form of harmonization is provided by a system of tax

10 There would, however, be tax induced changes in the distribution of income and wealth, because one would expect tax burdens shifted to the owners of the fixed factors of production to be capitalized in lower (than otherwise would prevail) asset prices.

supplements such as has existed for personal income taxes in Canada (with the exception of Quebec) since 1962. Although the tax base is shared by different levels of government, a uniform definition of tax base is maintained and provinces are free to determine the extent to which they will exploit this tax base by their choice of a tax rate. Vertical tax harmonization is preserved under this approach, although horizontal tax harmonization is sacrificed in the interests of greater provincial expenditure discretion. However, some degree of horizontal tax coordination is achieved through the current system of equalization payments, as has already been noted. Given the highly unequal division of tax bases across the provinces in Canada, equalization payments allow the more poorly endowed regions of the country to provide a satisfactory level of public services without resorting to unduly high rates of taxation. As the Economic Council of Canada has stressed recently, equalization payments perform the dual role of reducing differences in the fiscal residual across regions, thereby improving economic efficiency while also contributing towards the achievement of greater horizontal equity in the federation (or the more equal treatment of equals by all levels of government combined).[11] Equalization may also play an important indirect role in attaining tax harmonization by discouraging provincial governments that receive payments from reducing their tax rates below the national average in order to attract a larger tax base.[12]

An additional degree of harmonization is engendered by each jurisdiction's fear of losing economic activity to other areas if its tax rates are out of line with those imposed elsewhere. Tax competition may thus restrain the emergence of tax differentials in a federation. In the area of corporate taxation, for example, both Ontario and Quebec have chosen to maintain general conformity with the federal definition of the corporate tax base that applies in other provinces.[13] When tax competition serves to harmonize tax rates, however, it generally does so at a relatively low level, as evidenced by the recent history of death taxes in Canada. When the federal government withdrew from the estate tax field in 1972 and turned this area of taxation over to the provinces, the ensuing provincial

11 Economic Council of Canada, 1982.

12 Wayne R. Thirsk, 'Fiscal Harmonization in the U.S., Australia, West Germany, Switzerland and the ECC', paper presented at U.S.-Canada Law Institute, London, Ontario, December 1981.

13 But see Appendix 5B.

scramble for wealthy testators soon resulted in the rapid disappearance of wealth transfer taxation in this country.

While in view of the willingness and ability of sub-federal levels of government to engage in retaliatory tax measures the problem of tax harmonization may to some extent take care of itself, the possibility of such possibly destructive competition may not be viewed with equanimity by all. For example, because, as noted above, tax competition tends to harmonize tax rates at relatively low levels, an efficient level of government expenditure may be sacrificed if nothing else is done to correct for a sub-optimal level of expenditure. Moreover, if the process of tax competition occurs on a selective basis across different industries in the economy, the process of tax competition may contribute to an inefficient inter-industry allocation of resources in the economy.

On the other hand, it can be argued that tax competition among sub-national jurisdictions, like price competition among firms, is basically beneficial, in that it reduces the extent to which citizens can be exploited by the 'intrinsically coercive powers vested in government.'[14] However, the obvious 'prisoner's dilemma' or 'least-common denominator' aspect of tax competition between provinces may legitimately be modified in the federal setting by accepting constitutional constraints on provincial taxing powers - for example, limiting taxation on 'source' or 'origin' bases - in order to reduce the possibility of tax exportation.

From this point of view, to the extent that personal income taxes fall exclusively on residents, they would seem to be among the best of all possible provincial taxes. This general conclusion does not by any means imply that every province should have its own version of the present complex federal tax, but it does suggest that there is a strong case for provincial personal income taxes in a federal state. As Donald Huggett concluded in an early discussion of this issue, separate provincial personal income taxes are not only feasible - they might even be desirable in terms of strengthening both local autonomy and governmental responsibility, despite their obvious high costs in administration, compliance, and perhaps also increased avoidance and evasion.[15] The possible economic costs (or

14 Geoffrey Brennan and James Buchanan, 'Normative Tax Theory for a Federal Polity: Some Public Choice Preliminaries', paper for International Seminar in Public Economics, Canberra, Australia, August 1982, 22.

15 Donald R. Huggett, 'Tax Base Harmonization', in Intergovernmental Relations (Toronto: Ontario Economic Council, 1977), 55-62.

benefits) of such differential taxes depend, as discussed elsewhere, on the relative mobility of labour and capital and their sensitivity to fiscal differentials. To some extent, these costs may be reduced by a process of tax coordination, as discussed in the next section.

COORDINATING TAXES

Economists usually focus on individual welfare in a national setting, but there seems to be no reason to expect provincial policymakers to be similarly unconcerned with purely provincial concerns. The scope of these concerns is critical to one's approach to tax coordination. The problems of coordinating taxes among sovereign jurisdictions are sometimes resolved by unilateral measures (e.g., credits or deductions for 'foreign' taxes), sometimes by bilateral measures (treaties), and sometimes by multilateral measures (either 'harmonization' or transference of functions to supra-national bodies).

Recent events in Canada suggest that there will likely be an increasing need for more direct province-to-province discussions on tax matters, without, as in the past, most such discussions being mediated (explicitly or implicitly) through the agency of the federal government. It is by no means clear whether increased reliance on such horizontal co-ordination would be more or less costly than the past reliance on vertical coordination - and it is even less clear, in any case, whether the results would be 'better' or 'worse', and from whose point of view. But Canadians are probably going to have to face up more squarely to such questions than they have done heretofore.

The growth of independent provincial taxes will require in particular the development of more explicit horizontal coordinating mechanisms. A crediting system would appear to work well if the residence principle of taxation were fully accepted - as may seem more reasonable in a federal state than it has proved to be in the international context. Under this principle, residents would be fully taxed on all their income, irrespective of the jurisdiction in which it originated. Such an arrangement would still give rise to some problems, however, if, as might be expected, 'source' provinces tried to exercise and retain first claim on income originating in their jurisdictions but accruing to non-residents, as in the case of natural resource revenues, discussed earlier in this chapter. On the provincial level, therefore, some minor flourishing of bilateral and multilateral co-

ordinating devices, like those on the international scene, might perhaps be expected to accompany the unilateral coordination afforded by a 'foreign' tax credit system.

However, the costs of the whole process could easily quickly become so high as to render a return to 'federal' coordination (as now) attractive, so reasonable people might decide to obviate the necessity for the interim costly stage by moving directly to an explicit agreement between the provinces and the federal government on new methods of horizontal co-ordination. As in the case of the corporate tax, this might perhaps best be done incrementally, with each significant divergence from the present system being discussed separately by all concerned.

What seems needed in this respect is a more organized and co-ordinated method of reaching the necessary federal-provincial compromises. Tax harmonization issues, for example, might be explictly considered in the context of a set of interlocking, ongoing joint federal-provincial committees on which both sides had equal status. This framework would not necessarily produce better results in any normative sense, but it should at least ensure 'that a specific policy issue will not be formulated by one government level only and will not be decided in ignorance of its possible effects upon other policies and of its relation to the general body of evolving tax-and-expenditure policy.'[16]

Although obviously deficient in its neglect of the possible trade-off between coordination costs and the costs of uncoordinated decisions, this approach is nonetheless worth mention here because federal-provincial committees are how things get done anyway in Canada and because it seems clear that this committee process is at present neither based on 'equal status' nor as well articulated and coordinated as it could be, with one result being precisely the outcome deplored in the above quotation. Should provincial fiscal systems in Canada become still more independent, closer consideration of more appropriate coordinating mechanisms, perhaps along these lines, will become even more important. In particular, any steps to formulate a 'code of good tax conduct' would surely make more sense in this framework than either a 'code' unilaterally imposed by the federal government (as in the present Tax Collection Agreements) or reached by the provincial governments alone (as in the - very incomplete -

16 Bernard Dafflon, Federal Finance in Theory and Practice with Special Reference to Switzerland (Bern and Stuttgart: Paul Haupt, 1977). See also the discussion in the introduction to the present report.

U.S. Multistate Tax Commission).

A 'code of good tax conduct' is, in fact, far too limited a concept. As has been made clear in a recent study entitled The Choice of Governing Instrument by Trebilcock and Hartle et al., governments have a wide range of policy instruments at their disposal: taxes, expenditures, regulations, loans, loan guarantees, and others. Many of them are good technical substitutes for one another: in other words, there are many alternative means to the same end. The choice of instruments seems to depend largely on non-economic factors, such as voter perceptions. This being so, a 'code of good tax conduct' has little meaning, even if enforced, if there are not also codes of 'good' conduct with respect to expenditure, regulation, loans, and so forth, that are also upheld by all provinces. Without such a severe approach limiting if not preventing the adoption by provinces of interjurisdictional 'beggar thy neighbour' policies, constraining the perverse use by the provinces of but one policy instrument - taxation - is bound to be of little avail. This having been said, the general code, if it is to be effective, should be arrived at and monitored in the manner described earlier - by means of continuing joint federal-provincial committees with equal status. Given that the federal authorities have no constitutional authority over many of the uses of the policy instruments at the disposal of the provinces, the equal status requirement is by no means as extreme as it might first appear.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. A greater degree of provincial autonomy with respect to the PIT would be consistent with the federalism goal of providing substantial autonomy and hence interprovincial diversity. This diversity, assuming it reflects reasonably different tastes, may bestow significant social benefits. Against these benefits have to be weighed the largely unknown efficiency costs: for there are costs that can arise from an interprovincially inefficient allocation of resources over and above the direct administrative and compliance costs estimated earlier in this report.

2. The economic well-being of the average Canadian would be maximized, in the absence of market imperfections, by the maintenance of a common national market for all goods, services, labour, and repro-

ducible real capital. There is a high probability that attempts by particular provinces to offset actual market imperfections that bear more heavily on them than on other provinces will often generate retaliatory moves that will make everyone worse off. There are usually superior direct, non-tax means available for the correction of market imperfections that do not involve the same strategic risks as PIT modifications.

3. Interjurisdictional migration can be thought of, for present purposes, as the consequence of two considerations: interjurisdictional differences in factor prices (or opportunities, in the case of labour) and differences in net fiscal residuals - the difference between the satisfaction obtained by the resident from government-provided goods and services less the satisfaction forgone because of the tax burden imposed on the same individual. When labour and capital relocate interjurisdictionally in search of higher returns, economic efficiency is usually enhanced. However, migration induced by interjurisdictional net fiscal residuals will perversely distort this market allocative process and reduce economic well-being.

When the net fiscal residuals differ among jurisdictions, the effect is the same as would be achieved by driving 'tax wedges' of different sizes between the before- and after-tax rates of return to factors on a jurisdictional basis: after-tax rates of return are equalized, although efficiency requires that before-tax rates of return be equalized.

Interprovincial PIT differences (some of which exist now) may contribute to interprovincial net fiscal residual differences and thus may contribute to the economic misallocation of resources. (It should be borne in mind, however, that, as stated earlier, interjurisdictional diversity is the raison d'être of a federal system and can confer benefits, although they are difficult to value in dollar terms.) The extent of the difference in NFRs is an empirical question about which little is known, as is the elasticity of mobility to the NFR differences (but see Chapter 8).

Although not ideal, particularly as it applies to provincial natural resource revenues, the existing system of federal equalization payments, which provides unconditional transfers to the poorer provinces, does much to mitigate the allocational problems presumably

posed by interprovincial NFR differences.

4. 'Tax harmonization' has little economic justification as an objective when the concept is interpreted narrowly, as the foregoing discussion of the implications of interjurisdictional net fiscal residuals for separate provincial PIT systems made clear. There is a remarkable degree of harmonization across the provinces for both PIT and CIT, brought about by the federal insistence on a common tax base for PIT in provinces that are signatories to the collection agreement (in whole or in part). Certainly there is virtually nothing to be accomplished by seeking to harmonize rates if bases differ, because it is the effective rates that matter - ideally this must be looked at in terms of the all-inclusive concept of NFRs.

5. To avoid the adoption of 'beggar thy neighbour' tax changes, and the administrative-compliance costs of entirely separate systems, a strong case can be made that a continuing federal-provincial coordinating committee should be established that would have as its sole responsibility the better realization of horizontal and vertical coordination of tax changes (rates and bases). The federal government and the provinces should have equal weight in the deliberations of this body. Such an arrangement has been needed for many years. It would be even more necessary if the provinces were given greater autonomy under a joint collection agreement system, and it would, of course, be of crucial importance if more provinces, perhaps led by Ontario, were to adopt their own completely separate PIT systems.

PART IV
Other Issues

15
The tax-transfer treatment of families in Ontario and Quebec[1]

The purpose of this chapter is to consider how Ontario could alter the tax and transfer treatment of families under its own personal income tax system or, alternatively, under a more provincially determined but still federally administered personal income tax system. Obviously, Ontario now has considerable flexibility in terms of designing provincial transfers. It can also alter the payment of the federal family allowance - the average per child has to be the same across the country, but the amount per child can vary by such factors as age and family size.[2] However, this chapter concentrates more heavily on alternative tax policies that Ontario could pursue.

One theme that emerges is that much can be done within the existing tax system through tax credits and transfers even if Ontario does not go out on its own with respect to the personal income tax. Another theme is that the redistributive impact of the whole tax and transfer system is the most important consideration. The choice between credits and exemptions in the tax system or universal and selective programs[3] in the transfer system has to be made in the context of the whole tax-transfer system. Consequently, anything Ontario does with respect to tax or transfer policy has to be analysed in light of other federal and provincial programs.

The first section provides a general description of the tax-transfer system in Canada, explaining the types of transfers available and the provisions in the tax system that can affect the treatment of families. The issues concerning the choice of alternatives are also considered.

1 This chapter was written by Enid Slack in consultation with Richard Bird. Material was also supplied by Aly B. Sy and Peter Ross.
2 Quebec and Alberta have made alterations to the payment of family allowances. The Quebec system is discussed below.
3 These terms will be defined below.

The second section compares the tax and transfer treatment of families in Ontario and Quebec, concentrating more heavily on the tax side. It describes the differences and then evaluates them in terms of their impact by family size and income.

The final section discusses alternatives that Ontario could pursue with respect to the tax and transfer treatment of families. It considers these alternatives under the assumption that Ontario will administer its own personal income tax and under the assumption that it will not. The conclusion drawn is that there is much that Ontario could do to alter the tax-transfer treatment of the family, even within a federally administered income tax system.

THE TAX-TRANSFER SYSTEM

The present Canadian security system consists of a complex variety of programs of essentially four different types: demogrants, guaranteed income, social insurance, and social assistance. Demogrants pay a flat amount to everyone in a particular category: for example, family allowances are provided to families with children. These transfers are designed to reflect the particular circumstances of people in the affected group (in this case number of children) and they are not based on income. Guaranteed income schemes such as GIS (Guaranteed Income Scheme) or Ontario's GAINS (Guaranteed Annual Income Scheme) ensure a minimum level of support for all individuals. Social insurance schemes provide a source of income to people who, because of involuntary unemployment, age, or disability, have reduced incomes (through no fault of their own). Programs in this category include the Canada Pension Plan (CPP) and Unemployment Insurance (UI). Social insurance programs are considered to be earmarked contributions in which the amount paid out is related to the contributions. Finally, social assistance (or welfare) provides support to those who are ineligible under other programs. Examples are the Canada Assistance Plan (CAP) and provincial programs such as Family Benefits in Ontario.

In addition to these direct transfer programs, transfers can, in effect, also be provided through the tax system. There are two principal ways of delivering transfers through the tax system: exemptions and credits. Exemptions (or deductions) are subtracted from income to arrive at taxable income. The tax liability is then calculated as the tax rate

multiplied by taxable income. Under a progressive rate structure, the exemption provides greater tax savings for an individual in a higher tax bracket, since his/her marginal rate of tax is higher. Low-income people who do not have sufficient income even to be taxable do not benefit at all from exemptions - they receive no tax savings.

Tax credits, on the other hand, reduce the taxpayer's tax liability directly rather than through a reduction in taxable income. Thus, credits do not provide larger benefits for taxpayers with higher marginal tax rates. If the credits are nonrefundable, then they can only offset a taxpayer's tax liability; if he/she pays no taxes, then the credit is of no value. A refundable credit results in a net payment and is thus equivalent to a nontaxable demogrant.[4]

Although credits are generally considered to be more progressive than exemptions, there may still be reasons why exemptions are desirable. There are two issues here: vertical equity and horizontal equity. The discussion so far has concentrated on vertical equity - the unequal treatment of unequals on the basis of the notion that people with greater means should contribute relatively more in taxes (or receive relatively less in benefits). Horizontal equity is concerned with the equal treatment of equals. In other words, it expresses the notion that people with the same means should be treated equally regardless of their circumstances. Families with children, for example, should not be penalized relative to individuals without children. For this reason, exemptions are justified on the grounds that they adjust taxable income to account for the additional expenses incurred in raising children. Only with exemptions (and not with credits) can the same relative differentials be retained between families with different numbers of children and at different income levels. Thus, exemptions may not be progressive but may still be required on grounds of horizontal equity. The relative treatment of family sizes at different income levels is considered in the comparison below between the Ontario and Quebec tax treatments of the family.

The federal (and Ontario) tax system provides both exemptions for dependent children and a refundable child tax credit. Estimates of the value of these tax expenditures (and the family allowance) are provided in Table 15.1. As will be shown below, the principal difference between

4 See J. Kesselman, 'Credits, Exemptions, and Demogrants in Canadian Tax-Transfer Policy', Canadian Tax Journal, 27, 1979, 653-92.

TABLE 15.1
Federal tax-transfer treatment of the family, 1980 ($ million)

Federal transfers:	
Family allowance	$1,726
Federal tax expenditures:	
Exemption for dependent children	655
Refundable child tax credit	975

NOTE: Since the family allowance is taxable, the true cost to government is less than $1,726 million.
SOURCE: Statistics Canada, Federal Government Finance, 1980. Government of Canada, Tax Expenditure Account, 1980.

these two programs is that the refundable child tax credit is worth less as income increases (since the credit is reduced as family income increases), whereas the exemption is worth more as income increases.

A final point: when evaluating the various transfer programs it is important to look at the net benefits, that is, the benefits received less taxes paid.[5] For example, the family allowance, which is a universal scheme in that a flat amount goes to everyone with children regardless of income, is taxable. Assuming that the personal income tax is progressive, this means that family allowance payments are taxed relatively more heavily for high income families than for low income families. The net benefit of family allowances is thus likely to be progressively distributed, since low-income families benefit from it relatively more.

This can be seen in Table 15.2. It follows that any move to reduce family allowances (as the federal government seems likely to do) would be regressive.

The family allowance paid for one child is $322.92 per year. However, the benefit of this demogrant, because it is taxable, is not the same for every taxpayer. As the table shows, the net benefit of the family allowance falls as income rises, indicating that what appears to be a regressive program may actually be progressive. It is thus the net benefits of transfers that have to be compared across provinces. This is discussed further below.

5 This argument is based on M. Mendelson, Universal or Selective? The Debate on Reforming Income Security in Canada (Toronto: Ontario Economic Council, 1981).

TABLE 15.2
Net benefits of family allowance

Total employment earnings	Family allowance (1 child)	Tax on family allowance	Net benefits of family allowance
10,000	322.92	86.90	236.02
12,500	322.92	93.14	229.78
15,000	322.92	96.03	226.89
22,500	322.92	102.04	220.88
32,500	322.92	135.63	187.29
62,500	322.92	162.50	160.42
97,500	322.92	162.50	160.42

SOURCE: OEC calculations.

A COMPARISON OF THE TREATMENT OF FAMILIES IN ONTARIO AND QUEBEC

This section concentrates largely on the tax treatment of families in Ontario and Quebec. Specifically, three aspects are considered: the tax treatment of the family allowance program (as well as differences in the family allowance itself), the tax savings from the child exemption, and the refundable child tax credit. One obvious point should be noted at the outset - Quebec residents pay both federal personal income taxes and Quebec personal income taxes. Thus, the differences in Ontario and Quebec only apply to the provincial tax. Also, even though the Quebec income tax system does not have a refundable child tax credit, for example, Quebec residents still take advantage of it on their federal tax returns.

Before considering the details of the tax side, it should be noted briefly that the transfers to families are very different in Ontario and Quebec.

Both provinces administer social assistance (or welfare) programs. There is a federal family allowance scheme in both provinces and Quebec has a provincial family allowance as well. With respect to welfare, Ontario administers a family benefits program, and General Welfare Assistance is administered (though not largely funded) by municipalities.[6] Family benefits, for example, provide longer-term help for the elderly not eligible for

6 Welfare is a provincial (not a municipal) responsibility in Quebec.

Old Age Security, mothers bringing up children alone, and the permanently unemployable.

Payments are determined by budgetary needs and income (and assets), where budgetary needs are determined on the basis of family size and age. Income includes that of the applicant, the applicant's spouse (defined to include partners outside marriage), and dependents. There is also a work incentive allowance in the program for those working over 120 hours per month. The income levels and aid vary with family size. A single person can earn $965 per month without losing the $145 benefit. If he or she earns more than $965, the benefit is wiped out, indicating a tax back rate on earned income of over 100 per cent. In other words, a dollar earned beyond the permitted level of income results in a complete loss of the transfer. This is, in effect, a tax.

General Welfare Assistance, administered through municipalities, provides short-term financial help to pay for necessities. Assistance can be awarded if the applicant is in financial need and, for example, aged, a sole-support parent, or unable to work because of illness or disability.

Social assistance in Quebec varies according to the number of adults in the family and the number of children. Payments increase with the number of children, but no additional assistance is provided after five children. Unlike Ontario, Quebec does not require a needs test under its Social Aid Program and does not provide a continuing increment as family size increases. Another major difference is in administration. In Quebec, all of the welfare information is on computer and cheques can be delivered the same day that people come in.

Quebec also has a work-income supplementation program. If an individual earns less than the social assistance amount, he or she is entitled to a 'top up' to make up the difference between social aid and his or her earnings. In addition, he or she is entitled to a supplement equal to 25 per cent of earnings. A work incentive is thus provided, since, for every dollar earned, the individual receives $1.25. If an individual earns more than the social assistance amount, the supplement is reduced by 33 per cent of the gap between the additional amount earned and the social assistance amount.[7] This indicates a much smaller tax back rate (33 per

7 An example would be the following: if the social assistance amount were $8,000, the work-income supplement would be $2,000 (.25 x 8,000). If an individual earned $10,000, then the supplement would be $1,340 (.67 x 2,000). In other words, the $2,000 supplement would be reduced by $660 (.33 x 2,000).

cent) than the Ontario program.

It is expected that a higher tax back rate on earnings would reduce work incentives relatively more than a lower tax back rate, but it is not within the mandate of this chapter to consider these effects. (The issue is discussed further in Chapter 8.) Other differences between the programs in Ontario and Quebec revolve around the treatment of family size and administration. Obviously, Ontario has considerable flexibility with respect to provincial transfers to individuals. The magnitude can be altered, as well as eligibility requirements, pay-out mechanisms, and work incentive features.

Turning to the three main programs under discussion, the federal family allowance is provided to families with children in all provinces. The federal Family Allowance Act allows federal payments to be altered by the province on the basis of age or family size. The constraints are that each child shall receive at least 60 per cent of the standard federal payment and that the total amount disbursed shall not be reduced. Provinces can also supplement federal family allowances from their own coffers.

In Quebec, it is assumed that the cost of raising a family increases with the number and age of children, so the federal family allowance increases with the number and age of children. Quebec also supplements the federal family allowance with its own provincial allowance geared to age and family size.[8]

The family allowances received by Ontario residents are taxable. in Quebec, they are not included in income for Quebec tax purposes. The Quebec family allowance supplement paid for children under 16 is also exempt from federal tax payable, because Quebec denies an exemption for these children in its own taxation act. The federal family allowance and the Quebec supplements for children 16 and over are taxable. As noted previously and in Table 15.2, the implications of taxing (or not taxing) the family allowance are fairly significant in terms of the progressivity of the program.

An exemption is provided in the federal (Ontario) PIT system for children, with the amount varying according to whether the child is under 17 ($670 in 1981) or older ($1,220 in 1981) but dependent (for reasons of disability). There is also a refundable child tax credit, which provides a

8 Quebec is the only province that has a provincial family allowance scheme.

flat amount ($343 in 1981) per child less a percentage of family income for incomes exceeding a specified amount ($26,330 in 1981).

Under the Quebec personal income tax, there is no exemption for dependent children under 16 years of age and no refundable child tax credit.

Table 15.3 summarizes the various aspects of the tax treatment of families in Ontario and Quebec. It is very difficult to evaluate any individual program without looking at the whole range of programs. For example, as noted previously, exemptions are regressive because they provide a greater benefit the higher one's marginal tax rate. The Quebec PIT has fewer exemptions for dependent children but it does not tax family allowances.[9] The remainder of this section attempts to compare the impact of the two systems.

Figure 15.1, based on the tables in Appendix 15A, compares the tax-transfer treatment of the family in Ontario and Quebec by numbers of children and by income. Included in the tax-transfer treatment are family allowances (less taxes payable where applicable), the tax saving from the exemption for dependent children and the refundable child tax credit. For families with one and two children, regardless of income class, the net benefit is greater in Ontario than Quebec. This results for two reasons: first, the family allowance is less per child when there are fewer children in the family in Quebec and also because there is no exemption for dependent children under 16 years of age in Quebec. For three children, the Quebec system provides more than Ontario at lower incomes and less at higher incomes. Although the family allowance for three children is higher in Quebec than in Ontario, there is still no exemption for dependent children. Since the value of exemptions tends to increase with income, the Ontario system appears more favourable at higher incomes. For four and five children, the Quebec system is considerably more generous at all income levels.

It can also be noted that in the $12,500 to $22,500 income range, the benefits sometimes increase as income increases, indicating regressivity. This occurs because the increase in tax savings from the child exemption outweighs the increase in taxes paid on the family allowance. In other words, the net benefits from the family allowance decrease less with

9 As also noted previously, family allowances are more progressively distributed when taxed by a progressive tax.

TABLE 15.3
A comparison of the tax treatment of families in Ontario and Quebec

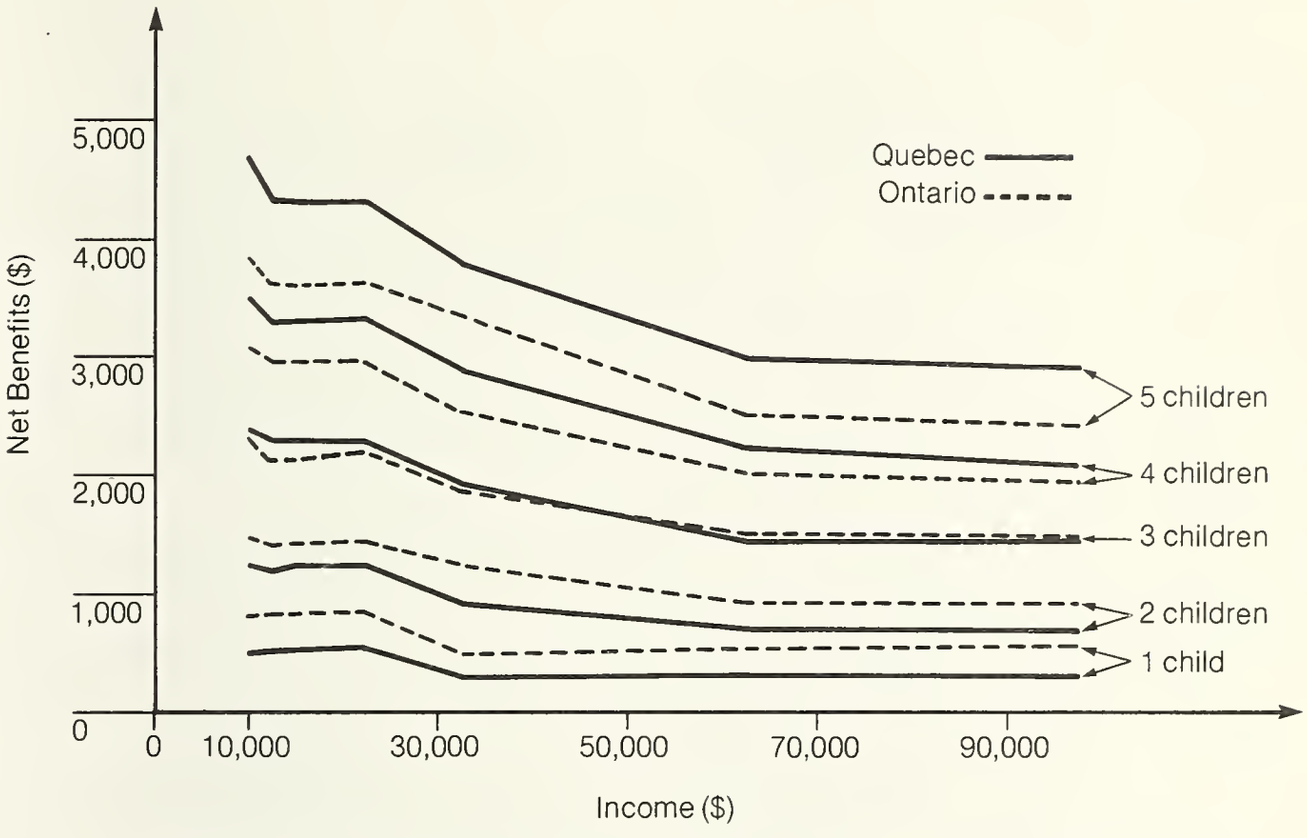
	Ontario	Quebec	
		Federal	Provincial
Tax treatment of family allowance	federal family allowance is taxable	federal family allowance is taxable	federal family allowance is not taxable
Exemptions	exemption of $670 for dependent children under 17	same as Ontario	no exemption for dependent children under 16
	exemption of $1,220 for dependent children over 17	same as Ontario	exemption of $720 for dependent children 16 or 17
Refundable child tax credit	$343 per child less 5% of family income exceeding $26,330	same as Ontario	no comparable program

income than the benefits from the child exemption increase with income, at least in this particular income range.

A comparison of credits and exemptions as means of aiding families through the income tax system is shown in Figure 15.2 for Ontario. It can be seen, for example, that the value of tax credits falls as income increases, whereas the value of exemptions increases with income. For low income families, the credit is worth more than the exemption; for high income families, the exemption is worth more. The income level at which exemptions become worth more than credits depends on the number of children. For example, with one child, the exemption becomes worth more at an income of about $25,000. With five children, the exemption is worth more at about $30,000. Thus, with an increasing number of children, the exemption does not become relatively more worthwhile until successively higher levels of income are reached.

Figure 15.2 also shows that for low income families the differential between credits and exemptions increases as the number of children increases. For example, a family with five children earning $10,000 receives substantially greater assistance from a credit than from an exemption ($1,465 compared to $802).

Figure 15.1
Comparison of tax-transfer treatment of the family
in Ontario and Quebec



NOTE: The Quebec charts omit the provincial family allowance but do include the federal family allowance.

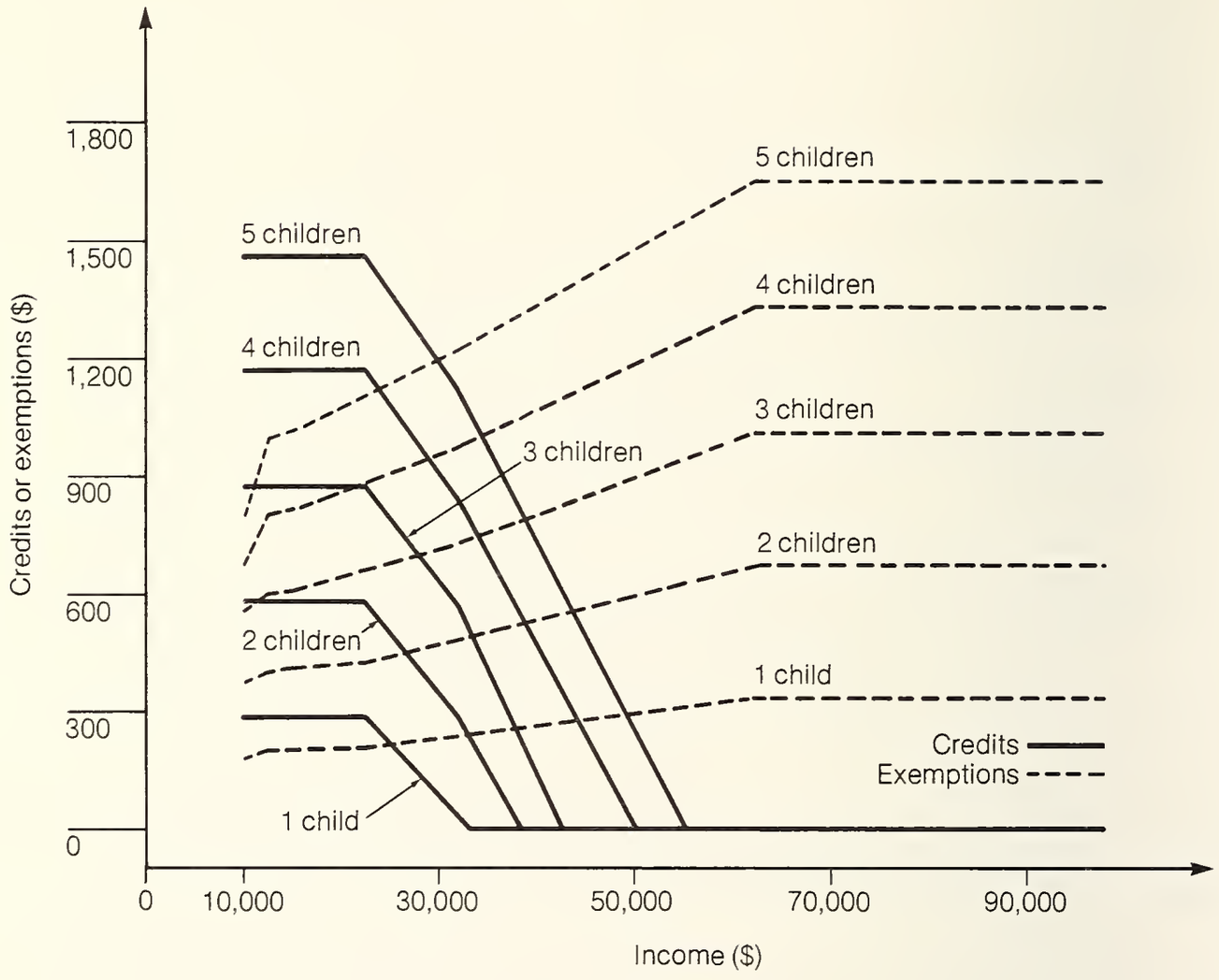
On a per child basis, the differential for one child is $195 for the exemption and $293 for the credit. For a family with five children, this differential increases - $160 per child for the exemption and $293 per child for the credit.

To summarize, there are many different ways to provide assistance to families directly through transfers or indirectly through the tax system. The Ontario treatment of families consists of a taxable family allowance which is considered to be progressive, an exemption for dependent children which is considered regressive, and a refundable child tax credit which is progressive (but only for those who file tax returns). The overall effect is fairly progressive in most (but not all) income ranges.

The system in Quebec includes federal family allowances geared to family size taxable by the federal government but not by the provincial government.[10] This is considered regressive because of the lack of pro-

10 There is also a provincial family allowance that is not taxable.

Figure 15.2
Comparison of credits and exemptions, Ontario.



vincial taxes paid on this transfer. There is an exemption only for older children. Fewer exemptions means that the overall effect is less regressive. Finally, there is no child tax credit in the provincial system.

The overall effect, as noted earlier, is one of more generous support for larger families in Quebec than in Ontario and the reverse for smaller families. It has also been shown that tax credits provide greater assistance to low income groups, especially for large families. Exemptions provide more benefits to higher income groups, again, the more so the larger the family.

It can also be concluded from this comparison of Ontario and Quebec that there are many ways to provide assistance to families with children - both through direct transfers and through the tax system. Also, each tax or transfer policy has to be considered as part of the child benefit system. The combination of programs may have a different overall effect than

any particular program was designed to achieve. Also, the same objective can be achieved by different programs. For example, a combination of exemptions and a taxable family allowance (as is done under the federal PIT) can be considered to be equivalent to a tax credit of a flat amount for all children.

Consider, for example, a family allowance of $300 taxed at a marginal rate of 25 per cent combined with a $300 deduction (at the same marginal tax rate). The net benefit of the family allowance would be $225 ($300-.25[$300]), and the tax saving from the deduction would be $75 (.25[$300]). The net advantage of the whole system would thus be $300 ($225 + $75). Equivalent to this combination of schemes would be a tax credit to each individual of $300.[11]

The main difference between a tax credit and the combined family allowance and child exemption comes down to the delivery mechanism. Although using the tax system would make administration easier and likely cheaper, the benefits would only be received once a year at tax time and, more importantly, those who did not file returns (usually those with the lowest incomes) would not be eligible for assistance.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. There are several programs and combinations of programs that Ontario could implement to alter the tax and transfer treatment of families. A number of suggestions are made. If Ontario administered its own personal income tax, it could implement a scheme along the lines of a credit income tax (Credit IT).[12] This system would provide a substantial personal tax credit for each individual, few or no deductions, and a constant (or flat marginal rate) of tax. A guaranteed income would automatically be provided, since people with zero income, for example, would receive at least the amount of the credit. A credit income tax could greatly simplify the treatment of families, since, as was noted earlier, a refundable tax credit can be equivalent to a taxable family allowance and exemption. Thus, it could replace the

11 This example is based on Robin Boadway and H. Kitchen, Canadian Tax Policy (Toronto: Canadian Tax Foundation, 1980). The results are insensitive to the marginal tax rate used.

12 A more detailed discussion of the virtues of a Credit IT is presented in the Introduction.

family allowance, the child exemption, and the existing refundable child tax credit.

Other alternatives, within a provincially administered income tax system, are provided by the Quebec treatment of families. For example, the exemption for dependent children could be reduced, applied to only older children, or completely eliminated. Also, the refundable child tax credit could be altered or removed.

Because the cost of administering its own personal income tax would be significant for Ontario,[13] and because even with an Ontario Credit IT system the weight of the Ontario PIT is insufficient to induce taxpayers to alter their behaviour if the federal system remains unchanged, it is probably more meaningful to consider alternatives that Ontario could pursue within the existing system. Much can be done on the transfer side - family allowances could be varied according to age of children and family size and provincial programs could be revised, enhanced, or changed.

2. On the tax side, the province has in place a mechanism by which to provide a guaranteed minimum income through provincial tax credits. Currently, there are credits against income taxes for property tax payments, sales taxes, pensioners, and home heating costs. A flat amount is allowed (based, to some extent, on the expenses incurred on each of the above), less a percentage of taxable income. Because the credits are reduced as income increases, they are probably progressive in incidence. As is shown in Appendix 15A, for a single person the credit reduces to zero at an income level of $20,000. In the case of families (not shown in Appendix 15A), the reduction in the credit is based on a percentage of taxable income for the highest income earner.

3. Provincial tax credits could be used to improve the progressivity of the personal income tax, to provide a guaranteed minimum income, and to alter the tax treatment of the family (though current credits do not specifically address the family). It should also be possible to expand the provincial tax credits to arrive at a system that more

13 See Introduction.

closely approximates a credit income tax but still fits into the federal tax structure.

4. In essence, therefore, the tax and transfer treatment of the family in Ontario could be significantly altered within the existing personal income tax system. This could be done specifically by changing transfers, by altering the federal family allowance and/or introducing a provincial program, and by re-working provincial tax credits (to reflect family circumstances). All of these areas require further study, particularly with respect to the harmonization of Ontario changes with the systems in other jurisdictions. The geographic mobility of persons consequent upon such changes also needs to be explicitly considered.

Appendix 15A
Tables

TABLE 15A.1
Tax-transfer treatment of the family, Ontario (1 child under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	322.92	86.899	195.372	293	724.39
12,500	322.92	93.14	205.288	293	728.07
15,000	322.92	96.028	208.496	293	728.39
22,500	322.92	102.04	218.42	293	732.30
32,500	322.92	135.63	247.9	21.78	456.97
62,500	322.92	162.5	337.2	0	496.62
97,500	322.92	162.5	337.2	0	497.62

TABLE 15A.2
Tax-transfer treatment of the family, Ontario (2 children under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	645.84	107.185	382.572	586	1,507.22
12,500	645.84	181.857	407.641	586	1,457.62
15,000	645.84	185.433	415.43	586	1,461.83
22,500	645.84	204.08	436.84	586	1,464.6
32,500	645.84	271.24	495.8	298.635	1,169.03
62,500	645.84	321.8	674.3	0	998.34
97,500	645.84	325	674.3	0	995.14

TABLE 15A.3
Tax-transfer treatment of the family, Ontario (3 children under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	968.76	49.65	565.318	879	2,363.42
12,500	968.76	272.795	610.717	879	2,185.68
15,000	968.76	284.713	621.76	879	2,184.80
22,500	968.76	306.1	661.87	879	2,203.53
32,500	968.76	406.87	747.4	575.49	1,884.78
62,500	968.76	444	1,016.5	0	1,541.26
97,500	968.76	487.5	1,016.5	0	1,497.76

TABLE 15A.4
Tax-transfer treatment of the family, Ontario (4 children under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	1,291.68	40.87	688.74	1,172	3,111.55
12,500	1,291.68	363.709	805.511	1,172	2,905.49
15,000	1,291.68	382.827	823.13	1,172	2,903.99
22,500	1,291.68	408.14	891.37	1,172	2,946.91
32,500	1,291.68	542.47	991.6	852.345	2,593.15
62,500	1,291.68	573.5	1,342.5	0	2,060.18
97,500	1,291.68	650	1,348.6	0	1,990.28

TABLE 15A.5
Tax-transfer treatment of the family, Ontario (5 children under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	1,614.6	25.3	801.97	1,465	3,856.27
12,500	1,614.6	439.14	1,002.41	1,465	3,642.87
15,000	1,614.6	470.94	1,029.97	1,465	3,638.63
22,500	1,614.6	510.21	1,124.13	1,465	3,693.52
32,500	1,614.6	678.13	1,239.5	1,129.19	3,305.16
62,500	1,614.6	716.9	1,659.1	0	2,556.80
97,500	1,614.6	812.6	1,685.7	0	2,487.7

TABLE 15A.6
Tax-transfer treatment of the family, Quebec (1 child under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	193.8	25.892	94.452	293	555.36
12,500	193.8	27.68	100.71	293	559.83
15,000	193.8	30.047	106.3	293	563.05
22,500	193.8	32.36	111.89	293	566.33
32,500	193.8	50.15	139.86	28.24	311.75
62,500	193.8	55	190.2	0	329.00
97,500	193.8	55	190.2	0	329.00

TABLE 15A.7
Tax-transfer treatment of the family, Quebec (2 children under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	501.6	0	159.67	586	1,247.27
12,500	501.6	71.202	198.548	586	1,214.94
15,000	501.6	75.391	210.493	586	1,222.70
22,500	501.6	83.76	223.78	586	1,227.62
32,500	501.6	129.79	279.72	305.845	957.47
62,500	501.6	140.6	380.5	0	741.50
97,500	501.6	142.4	380.5	0	739.70

TABLE 15A.8
Tax-transfer treatment of the family, Quebec (3 children under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	1,250.76	0	267.84	879	2,397.60
12,500	1,250.76	177.537	301.329	879	2,253.55
15,000	1,250.76	187.981	318.953	879	2,260.73
22,500	1,250.76	208.86	346.29	879	2,267.19
32,500	1,250.76	323.63	421.67	561.39	1,910.19
62,500	1,250.76	330.6	573.4	0	1,493.56
97,500	1,250.76	355.2	573.4	0	1,468.96

TABLE 15A.9
Tax-transfer treatment of the family, Quebec (4 children under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	1,999.92	0	377.85	1,172	3,549.77
12,500	1,999.92	283.89	403.335	1,172	3,291.36
15,000	1,999.92	300.58	424.401	1,172	3,295.74
22,500	1,999.92	333.98	475.28	1,172	3,313.22
32,500	1,999.92	517.49	559.45	816.93	2,858.81
62,500	1,999.92	521.2	760.8	0	2,239.52
97,500	1,999.92	567.8	760.8	0	2,192.92

TABLE 15A.10
Tax-transfer treatment of the family, Quebec (5 children under 10; one income earner)

Total employment earnings	Federal family allowance	Tax on family allowance	Tax saving from child exemption	Refundable child tax credit	Total benefit
10,000	2,749.08	0	481.4	1,465	4,695.48
12,500	2,749.08	330.58	510.95	1,465	4,394.45
15,000	2,749.08	408.747	531.447	1,465	4,336.78
22,500	2,749.08	459.08	605.93	1,465	4,360.93
32,500	2,749.08	711.31	699.31	1,072.47	3,809.55
62,500	2,749.08	711.5	951.1	0	2,988.68
97,500	2,749.08	780.5	951.1	0	2,919.68

TABLE 15A.11
The Ontario tax credit

Income($)	Ontario tax credit ($)
5,000	298.10
7,500	207.45
10,000	147.97
12,500	108.87
15,000	72.31
17,500	34.66
20,000	0
22,500	0
25,000	0
30,000	0
40,000	0
50,000	0
100,000	0

NOTE: These credits are for single persons. Since taxable income would vary by marital status and number of children, the credits would also vary by those factors.
SOURCE: OEC calculations.

16
The potential use of PIT for municipal-fiscal government financing[1]

Although the Canadian federal government did not impose an income tax until 1917, the provinces and municipalities levied income taxes as early as the 1830s. This provided an important source of revenue to municipal governments until 1941, when the provinces entered into the Wartime Tax Rental Agreement with the federal government. Since that time, municipal governments have not been able to levy income taxes - indeed, local governments are actually legally forbidden to collect income taxes.

In recent years, however, some provinces have allowed municipal governments to 'piggyback' onto the provincial income tax (and sometimes other taxes as well) in the same way that the provinces (with the exception of Quebec) piggyback onto the federal income tax.[2] Of course, in order to do this, it is not required that the province have its own personal income tax system - municipalities can piggyback onto current provincial income taxes, as collected by the federal government.

The purpose of this chapter is to consider the feasibility and desirability of a provincial personal income tax system that would allow municipalities to place a surcharge on provincial income taxes. Given the experience with surcharge schemes in other provinces, it is assumed that such a system is technically feasible. The chapter will thus concentrate on the desirability of a surcharge from the perspective of the provincial government, the municipal governments, and individual taxpayers. Several different surcharge schemes will be evaluated in terms of equity, efficiency, administration, and political criteria.

1 The chapter incorporates a study by Enid Slack.

2 As will be noted below, there are some differences between the two piggyback schemes, most notably, that the federal government acts merely as a collection agency for the provinces whereas the provinces act as granting agents to municipalities.

The chapter is divided into five main sections. The first section describes the existing municipal fiscal structure in Ontario and shows that municipalities depend largely on property taxes and provincial grants to finance local expenditures. Surcharge schemes in other provinces and states are also described in this section.

The second section presents the taxation issues. First, the base of the surcharge has to be determined; that is, whether it will be the personal income tax or the corporate income tax as well. Second, the rate of surcharge has to be determined; this section discusses the advantages and disadvantages of using one rate for the whole province as opposed to different rates for different municipalities.

The third section looks at various delivery mechanisms that the province could use to return the funds collected to the municipalities. On the one hand, the province could merely return the funds collected from any municipality, with the province acting as a collection agency in the same way that the federal government does for the provinces. On the other hand, the province could return the funds according to a particular formula in order to achieve equalization across municipalities or other objectives. This section evaluates the various economic (and other) rationales for distributing funds from one level of government to another and then considers the appropriate grant design to achieve these different objectives.

The fourth section considers the impact of a piggyback scheme on the finances of municipalities. The effect will depend on whether this source of revenue is substituted for property taxes or for existing provincial grants or whether it provides additional revenues to municipalities. The impact on individual taxpayers is also examined.

Finally, the chapter will evaluate the use of a surcharge on provincial personal income taxes for municipalities in terms of its impact on the provincial government, municipal governments, and individual taxpayers.

MUNICIPAL FISCAL STRUCTURE IN ONTARIO

Municipalities in Ontario depend largely on property taxes and provincial grants to finance a vast array of local services. As Table 16.1 shows, for the total local sector in 1980, property taxes and provincial grants each accounted for almost 40 per cent of total local revenues. The remaining 20 per cent was composed of specific user fees, other revenues, and borrow-

TABLE 16.1
Local government revenues, Ontario, 1977-80

	1977		1978		1979		1980		1977-80
	($ million)	(%)	($ million)	(%)	($ million)	(%)	($ million)	(%)	% change
Municipalities									
Taxation	1,663	34.0	1,785	34.7	1,967	35.1	2,165	35.3	30.2
Ontario grants	1,525	31.2	1,626	31.6	1,747	31.2	1,921	31.3	26.0
Specific user fees	639	13.1	725	14.1	810	14.5	906	14.8	41.8
Other revenue	591	12.1	749	14.5	762	13.6	852	13.9	44.2
Borrowing	467	9.6	268	5.2	314	5.6	290	4.7	(37.9)
TOTAL	4,885	100.00	5,152	100.0	5,600	100.0	6,134	100.0	25.6
School boards									
Taxation	1,526	42.9	1,663	43.5	1,831	44.9	2,048	45.4	34.2
Ontario grants	1,908	53.7	1,992	52.1	2,092	51.3	2,317	51.4	21.4
Other revenue	64	1.8	82	2.1	96	2.4	99	2.2	54.7
Borrowing	58	1.6	87	2.3	60	1.5	45	1.0	(22.4)
TOTAL	3,556	100.0	3,824	100.0	4,079	100.0	4,509	100.0	26.8
Total local sector									
Taxation	3,189	37.8	3,448	38.4	3,798	39.2	4,213	39.6	32.1
Ontario grants	3,433	40.1	3,618	40.3	3,839	39.7	4,238	39.8	23.4
Specific user fees	639	7.6	725	8.1	810	8.4	906	8.5	41.8
Other revenue	655	7.8	831	9.3	858	8.9	951	8.9	45.2
Borrowing	525	6.2	354	3.9	374	3.9	335	3.2	(36.2)
TOTAL	8,441	100.0	8,976	100.0	9,679	100.0	10,643	100.0	26.1

SOURCE: Local Government Finance 1980.

ing. It can also be seen from this table that property taxes have grown relatively more quickly over the last few years (1977 to 1980) than have provincial grants (32 per cent for property taxes compared to 23 per cent for provincial grants). In the early 1970s, provincial grants increased significantly in an effort to reduce reliance by municipalities on the supposedly regressive property tax. This trend seems to have reversed itself, however, in the late 1970s. Since the province has significantly cut back on the growth of provincial-municipal transfers, local governments in Ontario have depended increasingly on property taxes.

Both property taxes and provincial grants have been subject to considerable criticism since the Smith Committee (Ontario Committee on Taxation) reported in 1967. Very briefly, property taxes have been attacked for being regressive because they bear relatively more heavily on low income families than on high income families.[3] They are not considered to be benefit-related because they are used, to some extent, to finance services unrelated to property (for example, education and welfare). They are inelastic in that they do not grow automatically over time as the economy grows and, finally, they are considered to distort the allocation of resources because they discourage investment in improvements to property.[4]

Provincial grants in Ontario have been criticized for being too complex, for creating uncertainty and confusion among recipients, for impairing local autonomy, for distorting local expenditure decisions, and for containing inconsistent equalization provisions. Table 16.2 shows the breakdown of grants according to whether they are conditional (have to be spent on particular functions) or unconditional (can be spent on anything). This table hides many of the complexities of these grant programs - there are over 80 different grants in total, some going directly to the municipality, others to boards or agencies of the local government. Each grant has a unique formula and its own eligibility provisions. Table 16.2 does show, however, that unconditional grants form a fairly

3 Although the political perception is that the property tax is regressive, the theoretical literature is not as definite. See R.M. Bird and N.E. Slack, Residential Property Tax Relief in Ontario (Toronto: University of Toronto Press for the Ontario Economic Council, 1978).

4 Improvements to a property are expected to increase its market value. In theory, at least, increased market values will result in a property reassessment so that the assessed value on which the tax is levied is also raised. Improvements can thus lead to higher property taxes.

TABLE 16.2
Payments to local governments and agencies ($ million)

	Actual 1980-81	Interim 1981-82	Estimated 1982-83
Conditional payments			
Grants to school board			
General legislative grants	2,141	2,504	2,715
School capital grants	46	61	67
Transportation			
Roads	418	450	475
Transit	133	175	198
Other	2	2	3
Social assistance			
General welfare assistance	224	253	257
Children's aid societies	115	131	146
Homes for the aged	107	130	145
Day nurseries	40	50	58
Other	7	7	8
Health			
Local health units	60	69	83
Other	21	22	25
Environment	69	115	93
Municipal affairs and housing	83	107	84
Agriculture	55	76	65
Conservation authorities	39	36	37
Library boards	23	25	26
Recreation	15	14	18
Northern affairs	19	14	15
Short-term job creation	-	-	53
Other conditional payments	6	16	12
	3,623	4,257	4,583
Unconditional payments			
General support	87	178	201
Resource equalization	143	164	178
Per capita - policing	87	110	113
Per capita - general	39	113	62
Northern Ontario support	24	49	55
Payments-in-lieu of taxes	54	60	70
Other	18	23	20
	452	697	699
TOTAL TRANSFER PAYMENTS	4,075	4,954	5,282

SOURCE: Ontario budget, 1982.

small share of total grants - 11 per cent in 1980, 14 per cent in 1981, and an estimated 13 per cent in 1982. Despite provincial statements that more grants would become unconditional, with no strings attached, the numbers show that the vast majority of grants remain conditional.

From the provincial perspective, the demand for increased grants by municipalities puts increasing pressure on provincial revenues at a time of restraint. Table 16.3 shows that, although the growth in provincial-municipal transfers has moved in the same direction as provincial government revenues, this growth has consistently lagged behind in terms of magnitude.[5]

It would seem, then, that both provincial and municipal governments might welcome an alternative source of revenue for municipalities, one that grew automatically over time and that did not put additional pressures on provincial revenues. By allowing municipalities to piggyback onto the provincial income tax, the province would, in effect, have an earmarked tax. Revenues, by definition, would always be available to transfer to municipalities. From the municipal perspective, municipalities would be able to tap a revenue source that would grow over time. Depending on how the program was structured, however, the province might still have discretion over the surcharge rate (see below).

Some other provinces, recognizing that municipal revenues do not grow automatically over time, have initiated schemes whereby municipalities are given access to provincial 'growth' taxes. For example, since 1978-79, British Columbia has turned over the proceeds to municipalities of 1 per cent of individual income tax, 1 per cent of corporate taxable income, and 6 per cent of the sum of gasoline, diesel fuel, coloured gasoline, fuel oil, and sales taxes, lands and forest revenues, mineral revenues, and net proceeds from the sale of natural gas.[6] These funds are given back to municipalities as grants - some unconditional and some conditional.

In Manitoba, the province abates 2.2 percentage points of provincial personal income tax and 1 point of corporation income tax. The funds are transferred to municipalities on a per capita basis. Additional percentage

5 In the 1970s, the province made a commitment (known as the Edmonton Commitment) to increase transfers to municipalities at the same rate as its own revenues grew. This practice was never implemented, however.

6 Canadian Tax Foundation, Provincial and Municipal Finances (Toronto, 1981).

TABLE 16.3
Growth in provincial-municipal transfers, 1976-80

	1976-77	1977-78	1978-79	1979-80	1980-81
Provincial expenditures ($ million)	11,743	12,920	12,920	13,913	17,273
Growth in provincial expenditures (%)		10.0	7.7	13.8	9.1
Provincial revenues ($ million)	10,514	11,099	12,322	15,246	16,470
Growth in provincial revenues (%)		5.6	11.0	23.7	8.0
Provincial-municipal transfers ($ million)	3,407	3,388	3,652	4,051	4,075
Growth in provincial-municipal transfers (%)		(0.5)	7.8	10.9	0.6

SOURCE: Ontario budget, various years.

points can be abated at the request of a majority of municipal governments.

The Manitoba scheme results in an implicit equalization grant to municipalities, since it is on a per capita basis. The province collects relatively higher income taxes per capita from richer municipalities than from poorer municipalities. When all of the revenues are collected and pooled and the funds transferred back, all municipalities receive the same average per capita tax collected. In other words, richer municipalities receive less than was collected from them while the opposite is true of poorer municipalities.

Saskatchewan has also had a provincial-municipal revenue sharing scheme since 1978 under which municipal governments are given access to provincial growth taxes.

Piggyback schemes have been used by municipal and state governments in the United States as well. Baltimore and counties in Maryland piggyback onto the state income tax. Each local government establishes its own rate as long as it falls within the range of 20 to 50 per cent of the state tax. Bernalillo County has a similar arrangement with respect to the New Mexico state income tax.[7] In Wisconsin, the state puts approximately 40 per cent of its state income taxes into a fund reserved for local governments. This implies a uniform surcharge scheme for all the municipalities in the state and state distribution of funds according to its own formula.

TAXATION ISSUES

The first issue is whether to place the surcharge on corporate income taxes as well as personal income taxes.[8] An additional surcharge for municipalities on the corporate income tax would result in consequences that are very similar to those of the non-residential property tax, since both are taxes on the commercial and industrial sector. Thus, the literature on the economic impact of non-residential property taxes applies.[9]

7 C.H. Gadsen and R.W. Schmenner, 'Municipal Income Taxation', in J. Meyer and J. Quigley, eds., Local Public Finance and the Fiscal Squeeze: A Case Study (Ballinger Publishing Co., 1977). It has also been pointed out in this source that piggybacking in the U.S. is more commonly linked to state sales taxes. Examples are provided by New York City and local governments in California, Illinois, and Mississippi.

8 There is a surtax on both in Manitoba.

9 Thirsk has argued that the non-residential property tax is equivalent

A surcharge on the corporate income tax would be borne, in part, by workers in the form of lower wages and salaries. Also, the tax would be borne by consumers inside and outside of the taxing jurisdiction in the form of higher prices for goods and services produced. To the extent that the tax is borne by people in other jurisdictions, the tax can be said to be exported to non-residents. This may not be an insignificant amount - Thirsk found that, for all municipalities in Ontario, the average rate (unweighted) of tax exporting of the non-residential property tax was 56 per cent. In other words, more than one half of non-residential property taxes are exported to other jurisdictions.

On benefit grounds, it is not desirable to export local taxes to non-residents. Local residents should pay local taxes because they receive the benefits provided by local government expenditures. Also, as Thirsk has argued, exporting of local taxes represents a transfer of income from non-residents to residents that is not based on need, fiscal capacity, or spillover of benefits from local expenditures.[10] Of course, as is noted below, tax exporting may be desirable on political grounds. In any event, it is felt that a piggyback arrangement for municipalities should be based solely on the personal income tax.

The second taxation issue that has to be addressed is the rate of surcharge. Either one rate could be used for the whole province or, alternatively, each municipality could be allowed to levy its own rate.

Locally determined rates would result in efficiency and equity effects similar to those of provincially determined income tax rates. For example, it might be expected that people would relocate in response to differential tax rates. However, local jurisdictions are so much closer to each other than are provincial jurisdictions that one would expect much greater behavioural responses. People and businesses would, with differential rates, have an incentive to locate in neighbouring jurisdictions to avoid the tax. In order to minimize the effect on migration, a very low range of rates would have to be specified.

The issues related to the question of whether the province should levy its own personal income tax and the issues concerning local income

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to a municipal profits tax. See W.R. Thirsk, 'Political Sensitivity Versus Economic Sensibility: A Tale of Two Property Taxes', in W.R. Thirsk and J. Whalley, eds., Tax Policy Options in the 1980's (Toronto: Canadian Tax Foundation, 1981)

10 Ibid., 1981, 397-98.

taxes are somewhat similar, but because of the size and proximity of local jurisdictions and the types of expenditure functions they undertake, the concerns are not completely analogous.

There has been no empirical literature on the effects of a piggy-backed tax on residential or industrial location and very little on the impact of local income taxes.[11] What literature there is suggests that the impact on location is small. One would expect that differentials within a metropolitan area would cause greater locational adjustments than differentials between metropolitan areas. In reality, the effect of differential rates is difficult to assess since it depends on the size of the differential, the geographic size of the municipalities, and the expenditures in the municipalities, as well as other factors.

There is an argument for locally determined property tax rates, however. The decision on where to live, given job location, depends on both the taxes payable in a jurisdiction and the services provided. Municipalities can be regarded as local benefit units among which potential residents shop before locating in that jurisdiction in which the tax-expenditure package most closely resembles their preferences. In this 'Tiebout' world,[12] the property tax represents the price of living in a particular jurisdiction. Since the property tax is at least somewhat related to the benefits received, it is more appropriate than differential income tax rates. Thus, even with a piggyback income tax, there is still a role for the property tax.

The treatment of commuters also becomes important under a system of locally determined income tax rates. Should commuters be taxed and if so how much? If they are taxed, should these taxes be credited towards taxes paid in the jurisdiction in which they live? On benefit grounds, it can be argued that, since commuters enjoy some services in the municipalities in which they work, they should pay some tax in that jurisdiction. However, given this argument, they should probably pay less than residents, since they presumably enjoy less services. In many American cities, commuters are taxed at a reduced rate. On efficiency grounds, however, only by taxing commuters the same amount as residents will there

11 See J.D. Rodgers, 'Sales Taxes, Income Taxes and Other Revenues', in J.R. Aronson and E. Schwartz, eds., Management Policies in Local Government Finance (Washington, D.C.: International City Management Association, 1981).

12 C.M. Tiebout, 'The Pure Theory of Local Expenditures', Journal of Political Economy, 1956, 416-24.

be no incentive to relocate.

One possibility would be to tax residents on their income from all sources and tax commuters only on the income they earn in the taxing jurisdiction. By trying to achieve both benefit and ability-to-pay goals, however, neither might be satisfied. The tax on non-residents might be higher than the benefit argument would suggest, and the tax on residents might be lower (and less progressive) than the ability argument would support. The administrative costs of dealing with taxation of commuters would be fairly significant, especially if combined with a tax credit toward taxes in the jurisdiction in which they live.

Finally, under a scheme of locally determined rates it would be expected that the province would distribute these funds back as collected. The province might then want to provide some sort of equalization grant to poorer municipalities so that they could provide an adequate level of services. The current resource equalization grant would likely not be sufficient. These issues are discussed further below.

Under a uniform surcharge scheme, each municipality would levy the same rate and there would be no opportunity to charge non-residents different amounts. This might not be desirable from the point of view of large municipalities that provide employment and shopping opportunities to a large proportion of non-residents.

To summarize, locally determined surcharge rates would likely effect locational decisions and the treatment of non-residents would be very complex. In addition, the general administrative costs would be higher than under a uniform surcharge scheme. For these reasons, it is felt that the uniform scheme would probably be more appropriate for municipalities in Ontario. In any event, it would seem highly unlikely that the province would allow different surcharge rates for different municipalities, given the autonomy this would offer local decision-makers.

An income tax for municipalities piggybacked onto the provincial scheme would have many advantages. It would be visible to taxpayers, as is the current property tax. Thus the criteria of political responsibility and accountability would be satisfied. If it reduced the property tax, it would be desirable on equity grounds. Regardless of one's view of property tax incidence, the income tax is still considered to be a more progressive tax. Unlike the property tax, which is not benefit-related for the so-called 'soft services' (education, welfare, etc.), but is somewhat benefit-related for the 'hard services' (water, sewers, and so on), the

income tax is not at all related to the benefits received from local expenditures. Finally, probably the most important consideration for municipal governments is the elasticity of the income tax. Income tax revenues would almost certainty increase more rapidly over time than would property taxes.[13] With respect to property taxes, assessed property values do not increase automatically as market values increase, thus these revenues do not grow automatically. Increases in property taxes imply rate changes - and all of the political fallout that goes with rate changes.

Table 16.4 gives an indication of the magnitude of revenues that could be collected by looking at what would have been collected by municipalities in Ontario for selected years. This assumes a 1 per cent surcharge on the federal basic tax payable and a 1 per cent surcharge on corporate taxable income.[14] For 1979, for all municipalities in Ontario, the surcharge would have brought in almost $168 million in revenues or about 3.4 per cent of total municipal revenues from own sources.[15] Turning back to Table 16.1, it can be seen that a fairly significant surcharge rate (almost 50 per cent for the total local sector) would be required to replace property tax revenues or provincial grants.

Although a piggyback scheme is used in Manitoba to some extent, one of the major obstacles to wider use is that the income tax is already the major source of revenue to the federal and provincial governments. Also, as Break notes, it is by no means certain that local taxpayers would prefer a tax that fell clearly on local residents to property taxes and especially non-residential property taxes, which could to some extent be exported to other jurisdictions.[16]

A uniform surcharge collected by the province and turned back to the municipalities is very much like a grant program. The municipality has no discretion over the rate of tax and it cannot alter its behaviour to change that rate. The impact on municipal finance depends to a large extent on the way in which the province chooses to turn back the funds to the municipality. This is discussed in the next section.

13 This, of course, assumes no indexing of income taxes.

14 These formulas were chosen by Kitchen to reflect a system similar to what is used in Manitoba. See Harry Kitchen, Municipal Finance in Canada (Toronto: Canadian Tax Foundation, forthcoming).

15 Own source revenues exclude provincial grants; they include mainly property taxes, user charges and other miscellaneous revenues.

16 George Break, Financing Government in a Federal System (Washington, D.C.: The Brookings Institute, 1980), 54. For a discussion of tax exporting with respect to property taxes, see Thirsk, 1981.

TABLE 16.4
Potential revenues from piggybacking onto provincial personal and corporate income taxes, Ontario, selected years

	1968	1971	1975	1979
Revenues ($,000)	48,142.2	66,922.0	126,039.6	167,802.0
Per cent of own source revenue (%)	3.0	3.4	4.2	3.4

NOTES: 1 per cent to corporate taxable income (Corporation Taxation, Statistics Canada, Catalogue 61-208).
1 per cent to federal basic tax payable (Taxation Statistics, Revenue Canada).
Own source revenue figures are from Local Government Finance, Statistics Canada, selected years.
SOURCE: Kitchen, Harry, Municipal Finance in Canada (Toronto: Canadian Tax Foundation, forthcoming.)

ISSUES RELATING TO DELIVERY MECHANISMS

Assuming that municipalities all levy the same rate of surcharge on provincial personal income taxes (as discussed above), and that the province collects these revenues, the next issue is how the funds may be turned back to municipalities. The province could merely act as a collection agency, in which case funds collected from any particular municipality would go back to that municipality. This system is currently used by the federal government vis-à-vis the provinces. The main advantage of this arrangement would be the local autonomy it would provide for municipalities. They could spend exactly the amount of funds collected in their jurisdictions - the richer the municipality, the more funds it would have to spend.

It could be the case, however, that the province would want to pursue an equalization objective. For example, on equity grounds, the province might want each municipality to be able to provide some 'average' level of service (where 'average' represents the average for all municipalities in the province).[17] This would mean that the surcharge rate would

17 It can be assumed that the province is interested in equalization, since, under the current property tax system, the province provides a resource equalization grant based on assessment deficiency. As will be noted in the section, however, this grant has not been very successful at meeting the equalization objective.

be the same for all municipalities but, since the base on which the rate was levied would vary across municipalities, more taxes would be collected from relatively rich municipalities. A grant formula could determine the 'average' collected in the province (which would determine the 'average' level of service) and return that amount to each municipality. In a poor municipality, for example, less taxes would be collected than grants received (and expenditures made), and thus the municipality would be relatively better off under this scheme.[18]

The distribution of revenues to local government depends largely on the preferences of the province, but there are some economic principles that are relevant to the design of transfer formulas. The two main economic justifications for grants are on allocative grounds (to affect the level or mix of expenditures) and on redistributive grounds (to achieve fiscal equalization among local governments). In the first case, the objective of the donor government would be to encourage spending on particular goods and services so that certain minimum levels would be provided. With respect to redistribution, the provincial government's objective might be to achieve some sort of equalization among jurisdictions, where equalization would be of need, fiscal capacity, fiscal performance, fiscal effort, or some combination of these.

On allocative efficiency grounds, the provision of a particular service (for example, education) may result in spillover benefits to other municipalities. A person educated in Toronto may go to live and work in Oshawa, taking the benefits of his education with him. An interjurisdictional spillover (or externality) of this sort can lead to a misallocation of resources. The municipality providing the service generally considers only the benefits to its own residents when it determines how much of the service to supply. It will, in the case of a spillover benefit, provide too little of the service. Society as a whole would be better off if more of the service were provided, but the municipality has no incentive to consider the external benefits.

Improving allocative efficiency would require a mechanism to encourage expansion of the activity to account for external benefits. One possibility would be a subsidy to the municipality generating the spillover. A matching grant whereby the province paid a percentage of the expen-

18 Alternatively, the funds could be handed back as allocated and the province could have an additional equalization grant.

ditures on the good or service would be appropriate.[19] The matching rate (percentage of expenditures) would represent the ratio of external benefits to total benefits.[20] By altering the price of the service to the municipality providing it, the grant would provide an incentive to expand it.

The second rationale for transfers is on fiscal equity grounds. One municipality may not be able to provide the same level of public services at the same tax rate as another jurisdiction. This may be the case because tax bases differ across jurisdictions, so that a municipality with a low tax base has to levy a higher tax rate than a municipality with a high tax base. Alternatively, the costs of providing certain public services may be higher in one municipality than in another, so that a larger tax yield is required to provide the same level of services. Finally, the need for particular services may be greater in one municipality than in another, necessitating larger expenditures and consequently a greater tax yield in the former municipality.

Achieving fiscal equity would require lump sum unconditional grants to the poorer municipalities, so that all municipalities could provide a given level of public services at the same rate of tax. 'Lump sum' grants do not have to be matched by the municipalities; 'unconditional' grants do not have to be spent on a particular function. The grant would likely depend on such measures as the need and the taxable capacity (ability to raise taxes) of the municipality. Various possible formulas are considered below.

In addition to the economic justifications for intergovernmental transfers, there may be other reasons why the province might want to transfer funds to municipalities. The province tends to have greater taxing ability than local governments, since the latter are restricted by the circumstance that labour and capital can avoid a tax by moving to another municipality. It is somewhat more difficult to avoid a tax imposed by a higher level of government. Also, there are economies of scale in tax administration which can be more adequately taken advantage of by a more central government.

19 Other options are also available in the face of spillovers. For example, the province could take over the services entirely. This would internalize the externality to municipalities.

20 For example, if one-fifth of the total benefits spilled over into other municipalities, the matching rate would be 20 per cent: the province would pay 20 per cent of the expenditures and the municipality would pay 80 per cent.

Transfers are also often justified on the basis of the 'fiscal gap' argument. Lower levels of government often face a mismatch of revenues and expenditures because expenditure demands are rising more quickly than are revenues (at given tax rates). There is thus a 'fiscal gap'[21] between spending responsibilities and taxing powers. Unconditional transfers would increase the revenues of municipal governments - so would additional revenue sources (for example, piggybacking onto the provincial personal income tax and having the revenues turned back as collected) or revenue sharing. Alternatively, the province could take over some municipal expenditure functions.

Another argument for intergovernmental transfers is that upper level governments want local governments to provide their own services but at the same time want to maintain control over how the money is spent and to establish certain minimum levels of these services.[22] One instrument for achieving this dual purpose is a conditional, matching grant which is closed-ended (that is, has a limit on the amount of funds available). A conditional, matching grant alters the price of a particular service to the municipality, thereby encouraging spending on that service. By making these grants closed-ended, the province is also able to control the amount of funds it gives out in grants. These transfers can be thought of as a device whereby local governments act as agents or contractors for the province in carrying out specific tasks.[23]

Other reasons why grants actually do exist have been expressed in the literature. Briefly, it has been argued that an upper level government gives grants to lower level governments so that it can be identified with the services provided by the lower level governments.[24] Another reason cited is that the central government has surplus tax revenues because it has greater taxing powers relative to expenditure requirements than do local governments.[25] The local governments have inadequate

21 Robin Boadway, Intergovernmental Transfers in Canada (Toronto: Canadian Tax Foundation, 1980).

22 E. Gramlich, 'Intergovernmental Grants: A Review of the Empirical Literature', a paper presented to the International Seminar on Public Economies Conference, Berlin, 1976.

23 C.L. Schultze, 'Sorting Out the Social Grant Programs: An Economist's Criteria', American Economic Review, 64, 1974, 181-89.

24 S.L. Winer, 'Some Evidence on the Effect of the Separation of Spending and Taxing Decisions', Discussion Paper, Carleton University, 1979.

25 A. Breton and A. Scott, The Economic Constitution of Federal States (Toronto: University of Toronto Press, 1978).

revenues to meet their expenditure needs. The result is that those levels with surplus tax revenues are assumed to enter an imagined trade as buyers of 'expenditure functions', while those with inadequate tax revenues enter as sellers of those functions. Grants are treated as 'the price of traded functions'. These and other justifications are discussed more fully elsewhere.[26]

The distribution of piggybacked funds to municipalities would depend on the preferences of the province. As stated above, the two main economic justifications for grants are allocative efficiency and redistribution. The next step is to summarize various grant formulas designed to meet different provincial objectives.[27]

In the following examples, a number of assumptions have had to be made. Each jurisdiction provides only one service. Taxes in a particular jurisdiction are borne by its residents and are not shifted to non-residents. Benefits from expenditures do not spill over into other jurisdictions. All expenditures are tax financed; there is no borrowing. There is full employment, and, lastly, policies in one jurisdiction do not lead to retaliation by other jurisdictions.

Grant formulas can be designed to achieve various equalization objectives. One possible objective would be to equalize fiscal capacities of municipalities. This would mean that the province would collect different amounts of income tax revenues from each municipality and return the average revenue collected. The differences in taxes collected in different municipalities would entirely reflect differences in the tax base, since the rate of surcharge would be the same for all municipalities.[28]

This grant would mean that municipalities with a relatively large tax base would be able to spend less than was collected from them in taxes, and that municipalities with a relatively small base would be able to spend

26 See E. Slack, 'The Design of Intergovernmental Transfers', a paper prepared for the Colombian Commission of Intergovernmental Finance, 1980.

27 This section is based, in part, on Richard Musgrave, 'Approaches to a Fiscal Theory of Political Federalism', in National Bureau of Economic Research, Public Finances: Need, Sources and Utilization (Princeton: Princeton University Press, 1961). The examples provided are for illustrative purposes and are not intended to be exhaustive. Specific formulas appear in the appendix.

28 This assumption departs from much of the literature on grant formula design, which assumes different tax rates for municipalities. The whole issue of how the subsidy would affect fiscal effort (usually defined as the tax rate) does not apply here.

more than was collected from them.[29] Redistribution would take place from high tax base municipalities to low tax base municipalities.

Since the surcharge rate is assumed to be the same for all municipalities, the above grant would apply equally if the objective were to equalize expenditures.[30] The province would collect income tax revenues and again calculate the average amount to be turned back to municipalities. The average expenditures per municipality (made out of income tax revenues) would equal the average tax revenues collected, and, since the tax rates would be the same, equalizing across taxes would be the same as equalizing across the tax base. Redistribution would be from high tax municipalities to low tax municipalities.

One problem with equalizing expenditures or equalizing fiscal capacities is that no account is taken of the needs of the municipality. Thus, another objective might be to equalize need and fiscal capacity.[31]

It is generally assumed that the population of a municipality reflects its needs - i.e., that larger municipalities have greater needs. So population is used as a proxy for need.

In this case, redistribution would be from low need/high tax base municipalities to high need/low tax base municipalities. In the event that the tax base in a municipality equalled the average tax base, the subsidy would be greater as the need (measured by population) was greater. Similarly, if the need was equal to the average need, then the subsidy would be greater, the greater the difference between the tax base in the municipality and the average tax base. The grant could be modified so that larger municipalities received more per capita, on the grounds that, beyond a certain size, diseconomies of scale come into effect.

The foregoing grant designs have dealt explicitly with the equalization objective. Other formulas which could be used to equalize fiscal effort (tax rates) do not apply here, since it is assumed that each municipality levies the same surcharge rate. There is no flexibility to alter that rate under this system, so it is meaningless to design a grant based on fiscal effort.

29 The amount taken from high tax areas just equals the amount transferred to low tax areas, since there is no cost to the province ($\Sigma Si=0$) except for administration.

30 This applies only to expenditures made out of the income tax revenues. The impact on total expenditures (and other taxes) is much less clear. See below.

31 This is roughly the formula used in Manitoba.

A further provincial objective might be to allocate resources efficently. In this case, the grant would be matching - the province would provide a certain proportion of expenditures on a particular good or service. By reducing the price of the aided good or service, these grants would provide incentives to increase service levels.

Under this grant formula, the province would match expenditures made by municipalities on particular functions. The subsidy would be the matched amount minus the taxes collected from the municipality. To ensure that the province used up the funds collected, that amount would be specified as the maximum available for the designated functions.

Although the intention of this grant would not be redistribution, there would be some redistribution across municipalities. For example, municipalities which made relatively larger expenditures (up to the maximum available for the grant) would receive relatively larger grants. Also, the subsidy would be greater, the smaller the tax base of the municipality.

The above examples have shown how grants can be designed. Other formulas could also be considered, the choice depending on the objectives of the province. For example, a transfer could be designed to take account of the commuter problem. A formula could be based on the number of people employed in a municipality instead of on the resident population. Again, assuming that one surcharge rate were used for all municipalities, the most appropriate formula would be one that took into account both the fiscal capacity of the municipality and its needs.

IMPACT OF PIGGYBACKING ON MUNICIPAL FINANCES AND INDIVIDUAL TAXPAYERS

The preceding discussion has made no assumptions concerning the role of piggybacked funds in the finances of municipalities. For example, would these funds be additional to current sources of finance or would they replace existing sources? The answer to this question would determine, in part, their impact on local fiscal decision-making and on individual taxpayers.

It is unlikely that income taxes collected by the province would be directly substituted for property taxes collected by the municipalities. In other words, the province would have some difficulty in ensuring that income taxes would replace property taxes unless this were explicitly

legislated. However, municipalities might, as part of their response to income tax revenues, reduce property taxes. In other words, they would substitute income tax revenues for property tax revenues. To the extent that this occurred, the change would be progressive from the point of view of individual taxpayers. Greater reliance on the progressive income tax would be more favourable on equity grounds than reliance on the supposedly regressive property tax. As noted previously, however, there is still a legitimate role for the property tax in the local fiscal system, at least to finance the hard services.

Income tax revenues could also provide an additional source of revenue to municipalities or replace existing unconditional or conditional grants. Although it is not clear what the effect of a change in revenue sources would be on local fiscal decisions, there is a substantial empirical literature which looks at local fiscal response to different types of intergovernmental transfers.[32] It has been found, for example, that conditional grants are very stimulative - expenditures on particular functions have increased in response to conditional grants, sometimes by an amount larger than the grant. This means that property taxes generally have to be increased to help finance the additional expenditures. This implies that the introduction of income taxes which would be distributed back as conditional grants could actually increase property taxes!

Unconditional grants, on the other hand, have a different expected response. It has been shown empirically that unconditional transfers are, to some extent, substituted for property taxes.[33] Rather than using these grants to make expenditures, they are used to reduce property taxes. This result indicates that income tax revenues distributed as unconditional grants could be used to reduce (or replace) property taxes.

To summarize, if income tax revenues provide additional funds to municipalities, the local fiscal response will depend on the distribution mechanism. Whether the funds are transferred conditionally or unconditionally will determine whether local expenditures will increase or decrease and, similarly, whether property taxes will increase or decrease. Substituting income taxes for property taxes will be a progressive change; the result of using income taxes to increase expenditures is unclear, depending as it does on the benefit incidence of these expenditures.

32 See E. Slack, 'Local Fiscal Response to Intergovernmental Transfers', Review of Economics and Statistics, 62, 1980, 364-70.
33 Ibid.

It is very unlikely that income tax revenues collected by the province will be used to replace existing grant programs.[34] Even if they were used in this manner, there would be little change from the current situation. Provincial transfers to municipalities now come from general provincial government revenues. Since the largest component of these revenues is made up of the personal income tax, it seems that the distributive effect of changing to a system of grants from income tax revenues alone would be minimal. From the municipal perspective, the breakdown of revenues according to property taxes and grants would remain unchanged.

The role of the current resource equalization grant in this new system also has to be considered. This grant from the province provides funds to poorer municipalities on the basis of their property tax assessments. As has been well documented, assessment in Ontario is highly inequitable, since it is not based on true market values.[35] Thus, the resource equalization grant, which is based on flawed assessed values, is highly inadequate as an equalization tool. One possibility might be to replace it, at least until the assessment system is improved, by redistributing piggybacked income taxes through an equalization grant based on the income tax base. In any event, the delivery mechanism chosen for income tax revenues would have to take into account the redistribution through the resource equalization grant.

The main difference between the current system and a piggybacking scheme is in the income elasticity of the revenues they provide to municipalities. Currently, the province determines the rate of growth of provincial grants annually. This system results in much uncertainty for municipalities, which cannot make expenditure decisions until they know how much they will receive in grants. As shown in Table 16.3, provincial grants tend to move in the same direction as provincial revenues but not proportionately. From the provincial perspective, the demand for increased grants by municipalities puts increasing pressure on provincial revenues. Under the piggyback system, municipalities would be ensured

34 This is what happened in Manitoba. Given current government restraint, it seems unlikely that the province will provide additional revenues to municipalities.

35 See E. Slack, 'Provincial-Municipal Grant Reform in Ontario', in J. Bossons, M. Denny, and E. Slack, Municipal Fiscal Reform in Ontario (Toronto: Ontario Economic Council, 1981). Equalization factors are applied to the assessment figures for each municipality to take account of different assessments in different municipalities. However, even these are not up to date, so the grant is still inadequate.

that this source of revenue would grow as the economy grew. The province would have a pool of funds to rely on for provincial-municipal transfers and would not have to be concerned with determining the magnitude of grants each year.

A piggybacking scheme of this sort would be very much like an earmarked tax: the revenues collected from a specified percentage of provincial taxes payable would be earmarked for provincial-municipal transfers. As has already been stressed, this system would have one basic advantage over the current system: it would provide municipalities with an elastic revenue source.

One final point - the response of the province also has to be considered. It has been assumed that the provincial government would abate tax points to the municipalities. In other words, the provincial tax rate would be reduced by the amount of the municipal piggyback surcharge rate. It is possible, however, that the province would merely add the surcharge rate onto its own tax rate, in which case provincial revenue and expenditures would increase. It is beyond the mandate of this study to consider the impact of such a response.

IMPLICATIONS FOR A SEPARATE ONTARIO PIT

1. This chapter has attempted to present the issues involved in allowing municipalities to piggyback onto provincial personal income taxes. It was pointed out that such a scheme would have advantages for municipal governments, the province, and individual taxpayers. Municipal governments would have a steadily increasing source of revenue that would supplement the often criticized property tax. Even if the surcharge were to replace provincial grants, municipal governments would benefit from a certainty with respect to revenues that grants currently do not provide. The province would benefit from an earmarked tax because the funds for provincial-municipal transfers would always be available. Finally, the impact on individual taxpayers is less clear. If the surcharge were to replace property taxes, taxpayers would benefit from the shift to a more progressive tax. However, the final outcome would depend on how the funds were distributed back to municipalities and how the money was spent.

2. It has been argued in this paper that a uniform surcharge scheme

distributed to municipalities on the basis of an equalization formula which took needs and fiscal capacities into account would be desirable. Although it is felt that there is still an important role for the property tax in financing hard services, income tax revenues could be used to finance some of the soft services. Education, in particular, is not property-related and would thus be more appropriately financed through an income tax.

3. It would seem most likely that any scheme introduced in Ontario, at least at the present time, would be one which replaced some portion of existing conditional and unconditional grants. Although this would not provide additional funds to municipalities, it would nevertheless give them access to a growth tax.

4. The piggyback scheme for municipalities recommended in this chapter would not require that the province have a separate personal income tax. Quite apart from the issue of a separate provincial PIT, a surcharge for municipalities is not only feasible but advisable. Given the absolute chaos which characterizes provincial-municipal grants in Ontario today, this might be an appropriate time to replace them with a simple piggyback scheme, distributing revenues back to the municipalities through a simple grant formula.

Appendix 16A
Formulas

1. Formula to equalize fiscal capacities:

$$S_i = t_s (\bar{B} - B_i)$$

where

S_i = subsidy to municipality i

t_s = uniform surcharge rate

$\bar{B}$ = average income tax base in the province

B_i = income tax base in municipality i.

2. Formula to equalize expenditures:

$$S_i = ET_i - t_s B_i$$

where

ET_i = expenditures made out of income tax revenues in municipality i.

3. Formula to equalize need and fiscal capacity:

$$S_i = t_s (\bar{B}^{pc} - B_i^{pci})$$

where

$\bar{B}^{pc}$ = average per capita tax base

B_i^{pc} = per capita tax base in municipality i.

4. Formula to meet allocative objective:

$$S_i = kE_i - t_s B_i$$

where

k = matching rate (%)

E_i = expenditures by municipality i[1].

$$\max S_i = t_s \bar{B}$$

1 Note that E_i implies more than just expenditures made out of income tax revenues. If ET_i had been used, then k would have to be at least equal to 1, and this could not be a matching subsidy.

PART V
Implications

17
Recapitulation of implications for a separate Ontario PIT

INTRODUCTION - THE PERSPECTIVE OF THE REPORT

1. Adopting a separate and different PIT system for Ontario might add a significant retaliatory weapon to the arsenal at the disposal of the provincial treasurer, although it would be difficult to prove that Quebec's experience with PIT and CIT and Ontario's experience with CIT have materially affected federal tax policies in the past. There is no doubt that the federal government has been cavalier and pre-emptive in the field of personal income taxation. Unilateral changes that affect the interests of Ontario have been made by Ottawa without warning, much less consultation, despite the fact that Ontario's jurisdiction with respect to PIT is unquestioned. Some of these changes have created serious problems, certainly some of a political and probably some of an economic nature. Unless Ottawa is prepared to substantially alter its decision-making process with respect to changes in personal income taxation, it will place in increasing jeopardy the goal of fiscal harmonization that it has pursued since the Second World War. It is arguable whether the federal government will be willing and able to amend its decision-making process to accommodate the provinces. But it is a point that, in a sense, overrides the whole question addressed in this report. The required changes are not simply mechanical procedural modifications but changes in the weight given to the views and interests of the provinces vis-à-vis federal views and interests. In short, a change in the federal political system is involved.

2. 'Province building', which has been prevalent in many provinces, is a potential and perhaps even a present threat to the residents of

Ontario. Much of it is of a 'beggar thy neighbour' variety. A retaliatory weapon may be necessary if the province is to compete in this most unfortunate 'war of all against all'.

3. There are, as has been stated, both analytic and strategic uncertainties concerning the efficacy of possible PIT changes under a separate PIT system. On the basis of a review of existing theory and fact by acknowledged specialists in their respective fields, this report seeks to summarize what is known about the effects of alternative PIT structures (or other tax-transfer measures) on labour supply, personal saving, and business investment. The essence of this review of what is known is that:

- Little is known with certainty.

- Ontario can play a significant role in stabilizing the economy of the province - reducing unemployment and reducing inflation. Some modest concessions by the federal authorities would enhance the province's capacity to play a stabilization role.

- Except with respect to female secondary workers, there is little reason to believe that the levels of the marginal rates of tax per se have a significant effect on labour supply. The tax treatment of the labour force entry costs (dominated by child care costs) for this group of females probably has a significant effect on the labour supply.

- Although the available evidence is slender, it is not inconsistent with the view that taxes in general, and PITs in particular, affect migration.

- There seems to be no reason for concern about the level of personal saving in Canada or Ontario. Moreover, there is no conclusive evidence to support the view that tax considerations affect the level as distinct from the form of personal saving. Because interjurisdictional capital flows and interests rates are largely determined outside the province (and the country, for that matter), there is little reason to believe that increased

personal saving by residents of Ontario would have a favourable effect on investment in the province.

- The full integration of separate Ontario PIT and CIT for residents, which would amount to the abolition of the latter, except as a withholding device, could have some favourable effects on business investment. There are, however, some major uncertainties in the long chain of fact and reasoning that suggests this conclusion. In addition, there could be serious (and hence cost-generating) administrative and intrajurisdictional difficulties associated with an integrated PIT-CIT.

- There is reason to believe that investment tax credits would be more effective than PIT-CIT integration and pose fewer analytic and strategic uncertainties. Moreover, they would offer no administrative problems, since they could be handled under the existing Tax Collection Agreements.

- There are some changes that probably could be made in the existing system, still with federal collection, that would be efficacious. These include, among others spelled out in this report, adoption of a linear (flat) rate of tax for Ontario with refundable credits (which could be integrated with the social welfare system) and more generous treatment of the work-related expenses of child care.

- There seems to be some merit in tying a system of municipal grants to an earmarked portion of provincial personal income tax revenues.

- With respect to assistance for new and/or small enterprises, Ontario's present industrial development bonds program, which exists outside the personal income tax system, appears to be potentially at least as effective as Quebec's PIT concessions for the purchase of the shares of Quebec-based corporations.

4. All in all, then, apart from the general 'public choice' case, noted above and not further discussed here, the argument for a separate

Ontario PIT system seems to rest primarily on the advantages that might accrue to the province from the availability of a retaliatory weapon vis-à-vis unwanted federal PIT or other policy changes or 'province building' elsewhere in Canada that was likely to be at the expense of Ontario residents. Modifications in the decision-making processes of the Government of Canada with respect to tax structure might well make the creation of a retaliatory capability unnecessary. Such modifications, together with a willingness on the part of the federal tax authorities to permit the provinces more latitude in adopting non-discriminatory changes in the federal PIT structure, and given the availability of other cost-effective policy instruments, would do much to ameliorate the provincial problems now arising from the joint federal-provincial PIT system.

CHAPTER 1 - THE HISTORY OF PERSONAL INCOME TAX COLLECTION IN ONTARIO

1. Ever-changing circumstances, many of them originating outside of Canada, have in the past been accompanied by cyclical shifts in the balance of power and control over the allocation of resources between the federal government and the provinces. Ontario's request that a review be undertaken of the economic consequences of opting out of the current joint federal-provincial PIT system is perhaps best seen as but an aspect of the current phase of the exercise of pressure and counterpressure between the federal government and the provinces. This struggle for authority, resources, and voter support is inherent in any federal system. Although often untidy, time consuming, and confusing, this process is the means by which allocations of authority and resources appropriate to new circumstances are accomplished.

2. The Reference to the Council suggests that the Treasurer of Ontario has been actively considering the net advantages that might be derived from a separate Ontario PIT system. If this step were taken, Canada would obviously have a more decentralized tax system - particularly if other provinces were to emulate Ontario.

3. If the past is any indication of what the future portends, given the present and prospective general economic malaise, provincially, nation-

ally, and internationally, governments at all levels are now tempted and will no doubt be increasingly tempted, to adopt short-sighted, 'beggar thy neighbour' policies. It is vitally important that the Province of Ontario resist this temptation, for if it were to succumb it would almost certainly be quickly emulated by others, to the mutual detriment of us all as residents of Ontario and of Canada.

CHAPTER 2 - THE ONTARIO PERSONAL INCOME TAX CREDIT SYSTEM

1. The Government of Ontario, like the governments of other provinces (Quebec has not been directly involved since 1954), apparently has virtually no influence on the decisions of the federal tax authorities with respect to the determination of the federal personal income tax base or rate structure. Except for a brief period of tax reform in the late 1960s and early 1970s, this situation has prevailed since the Wartime Tax Agreements of the early 1940s.

   Moreover, the federal government has made a host of changes that have unilaterally, preemptively, and without prior notice adversely affected Ontario PIT revenue and had what the Ontario tax authorities have perceived to be perverse economic or social consequences for Ontario residents. Obviously a separate Ontario PIT would obviate this set of problems in the future.

2. The Province of Ontario was able to persuade the federal tax authorities to administer a personal income tax credit on behalf of the province in 1972. Since that time, other provinces have followed suit and Ontario has provided additional types of tax credits and changed their magnitudes, as have the other provinces. Aside from the province's freedom to alter the provincial rate of tax on 'federal basic tax', the PIT tax credit structure has to all intents and purposes provided the only provincial avenue for policy implementation through the joint PIT system.

3. However, even this degree of provincial policy freedom has been circumscribed. The federal government has adopted and enforced a set of rules concerning the types of provincial modifications under the generic heading of provincial PIT credits that it is prepared to administer on behalf of the provinces under the Tax Collection Agree-

ments. Of particular importance have been the rule that precludes a province from deviating from the federal tax base and the rule that a province may not adopt credits with respect to investment income that discriminates with respect to the jurisdiction location of the investment.

The restriction against provinces varying the federal PIT base as it applies to their own provincial PIT systems may be justifiable on administrative grounds (although this is not necessarily a critical consideration). However, the restriction on jurisdictionally discriminatory provincial credit provisions, while almost certainly laudable in terms of intent, has little to justify it in terms of effectiveness. It is obviously a second or worse best for the federal tax authorities to stand so firmly against provincial attempts to pursue jurisdictional discrimination through PIT, when federal intransigence in this respect simply results in other instruments being used to the same (or greater) effect by provinces willing to sacrifice national well-being for province-building (although the new constitution as interpreted may prevent at least some of these attempts to erect interprovincial barriers).

4. There has been a great proliferation of credits in many provinces in the last ten years. However, in Ontario, as in some other provinces, the credits' rate of growth in forgone revenue terms has slowed. This presumably reflects in large part the slow growth of government revenues in recent years and the constraints imposed by rising provincial deficits.

5. In the past few years, both Alberta and British Columbia have proposed credits that have been rejected by the federal authorities. The prevailing federal restrictions on provincial PIT credit policy obviously would have no direct force or effect if Ontario were to adopt its own PIT system. However, the recent federal acceptance of the British Columbia proposal that provincial PIT credits be administered by the federal government with respect to the interest on a certain type of B.C. bond could indicate that greater flexibility will be forthcoming within the existing system, since federal acceptance of the B.C. proposal seems to run directly counter to the federal rule concerning provincial jurisdictionally discriminatory investment income

PIT credits, although the B.C. bond interest credit is probably less perverse than the earlier proposed dividend credit for B.C. firms only.

6. Ontario, like the other provinces, can and does employ many alternative policy instruments, such as expenditure programs and regulation, to achieve its objectives. To the extent these alternatives are at least as cost effective - and the general presumption is that they are - the need to establish a separate PIT to achieve provincial goals is reduced, at least from a strictly economic efficiency perspective.

7. If the provinces were to forswear 'beggar thy neighbour' PIT credits that discriminated against out-of-province investment by residents or in-province investment by non-residents (should that not be desired), there would seem to be no reason for the federal tax authorities to deny the provinces the right to impose investment or investment income tax credits.

8. The federal revenue budget process is grievously flawed. And the results of that process, the existing federal tax system in general and the PIT system in particular, bear testimony, in part, to the weaknesses in the federal process. There is no doubt that many of the weaknesses in the existing federal PIT cannot be blamed on the process per se but are a direct result of the federal authorities seeking to reconcile, year after year (or more often!), a multitude of conflicting demands and interests while striving simultaneously to maintain the fundamental integrity of 'the system'. There is no doubt that giving provincial tax authorities an equal voice would make the process more difficult and more protracted. Nor is there any doubt that provinces would often express conflicting views that would in some way have to be resolved - if only to be rejected - in order to proceed with the governing of the country.

However, this having been said, it is primarily because revenue budgets are of necessity so fraught with endless conflict - conflicts between interests, conflicts between ideologies, conflicts between theories, facts, and analyses, and conflicts between strategies - that the legitimacy of the process takes on such importance: we accept the decisions of governments that we personally may not like because

they were fairly and democratically elected, and court decisions that go against us because the proceedings were open, the rules of evidence were observed, and the 'facts' were determined by an unbiased jury. 'Justice is what the courts decide' is a reasonable aphorism when the courts are perceived to be legitimate. This is also true of the decisions that determine the structure and rates of the PIT.

As was pointed out in the Introduction, Canada now has a remarkable degree of tax harmony by world standards. Unfortunately, the record with respect to non-tax provincial discrimination against interjurisdictional flows of capital, labour, and goods and services is far from unblemished, and the situation seems to be deteriorating rapidly. The federal authorities presumably are aware that their intransigence in the face of certain provincial initiatives with respect to PIT may have simply induced the provinces to introduce the same discriminatory policies through other means. However, there is little doubt that some provinces would have adopted 'beggar thy neighbour' policies using other means whatever the federal government had decided about predatory provincial PIT changes. A greater awareness of the total interprovincial discriminatory policy picture, coupled with a recognition that the provinces must be given a continuing legitimate and substantive role in federal PIT changes, seems to be essential if the federal government is to maintain the Canadian common market.

For while there is little evidence in this report that would support the economic case for a separate Ontario PIT, it is also the case, as noted in the Introduction, that some nations (e.g., Switzerland and the U.S.) are doing well economically vis-à-vis Canada, yet have less tax harmony. Changes in PIT would not be likely to greatly affect Canadian or Ontario growth rates. Although this argues against Ontario having its own PIT for the better realization of Ontario's economic objectives, it also suggests that an independent Ontario PIT policy would not be likely to do massive damage - at least over the short or intermediate term - assuming that interjurisdictional retaliation did not intensify the estimated costs.

CHAPTER 3 - QUEBEC'S EXPERIENCE WITH THE PERSONAL INCOME TAX

1. In the Canadian context, constitutional doctrine was of no help to

Quebec in setting up its own PIT. Although it had constitutional law on its side in its dispute with Ottawa over taxing powers, Quebec could not make effective use of this doctrinal advantage. First of all, the right of any province to levy a PIT was never denied by Ottawa. Indeed, the very existence of tax rental agreements since 1940 was evidence of this recognition in principle of the province's right to levy a PIT among other taxes. What Quebec wanted was not to levy a PIT fully independent from the federal PIT, but to obtain a reduction in the PIT yield of the federal government equivalent to the proceeds of its own PIT. In trying to obtain this rollback of the federal tax, the constitution was of no use. This did not necessarily have to be so. One can speculate that, had Canada's Supreme Court followed the American tradition of legal interpretation, it might have been possible for Quebec to contemplate a judicial settlement: if a province had a constitutional right to tax, it also had a right to exercise that power without inflicting on its citizens de facto discrimination by refusing to 'rent' the use of that power to the federal government without a compensating reduction of the federal tax bite in that province, equivalent to the transfers to other provinces for the exclusive federal use of this particular tax. However, it is well known that the Canadian Supreme Court has always had a more restrained vision of its role than its American counterpart, and that the possibility of court action was moot.

Even today, with the newly amended Canadian constitution, it remains uncertain what reading the Supreme Court would render. The wording used in the section of the new constitution dealing with equalization suggests that it is directed to instances of opting-out from shared-cost spending programs rather than to taxation.

2. A major new tax can be introduced with success (i.e., be accepted as legitimate, however grudgingly) only if public opinion at the same time strongly supports public expenditures which are thought to be narrowly linked with the new tax. Although the Quebec government consistently maintained its position of unequivocal opposition to exclusive federal occupation of the direct taxation field from 1945 onwards, it made absolutely no progress for several years. Not only were the federal-provincial fiscal arrangements, initiated in wartime, renewed in 1947, but the negotiations leading up to the 1952 arrange-

ments saw Quebec's objections ignored by Ottawa and Quebec found itself totally isolated at the end of the process.

However, as soon as the federal government widened its centralizing offensive from the tax side to include the expenditure side, things began to change. With the Massey Commission and federal grants to universities, Ottawa began to play a role in a field of unambiguous provincial concern: in other words, it was admitting that its exclusive use of some taxing powers was in part explained by its decision to spend money for provincial purposes. Not only was its refusal to share tax powers henceforth deprived of its justification, but the spending area in question was both one that made the federal presence in Quebec very hard to justify and one that attracted considerable, even passionate, interest.

Had the federal government continued, in the early fifties, to spend only for its own purposes, the provincial PIT would probably never have seen light of day, since it was by no means likely that the Quebec government could have obtained an offset for its tax from the federal government.

For these reasons, it is probably not inaccurate to describe the Quebec PIT as an unexpected and unwanted consequence of the Massey Commission's efforts to define and defend the Canadian culture! At any rate, it should be clear that the Quebec PIT was a defensive reaction to the federal initiative and not a forerunner of some separatist drive.

3. The power to modify the provincial PIT will be used to the fullest extent. In the revenue structure of any modern government, the PIT assumes a very major importance. It is reputed to be the most equitable tax and it is the most income-elastic broad-based tax, and these characteristics are not lost on governments in search of additional revenue. In Quebec, in the mid-1960s, the Provincial Commission of Inquiry on Taxation recommended a more intensive use of the PIT in preference to other taxes. Changes in the provincial PIT will not be limited to changes in tax rates, tax credits, or personal exemptions: they will touch on all aspects of the tax structure, including the definition of income for tax purposes. Government will also use the PIT to implement various policies through incentives of one kind or another. All this will be a constant source of disparity between the

federal PIT and its provincial counterpart. The importance of such disparities will of course vary from one instance to another and many may only be temporary. However, the point remains: the power will not go unused.

4. Provincial tax administration implies that over time provincial revenue officials will develop their own approaches, methods, and traditions which will add to the political and financial factors making for federal-provincial divergences in PIT. In any government, officials provide a significant input into legal drafting. But nowhere is this more important than in the case of tax laws, in respect of which legislators usually have an understandable awe. The resulting divergences are of greater consequence in increasing compliance costs than most other divergences because they often have a direct impact on accounting rules for tax purposes.

   For those divergences to emerge, one need not assume that officials are a priori opposed to tax harmonization. On the contrary, tax officials will often actively seek parallelism in tax interpretation and administration; thus there are systematic exchanges of information on tax assessments and tax interpretations between Quebec and Ontario. However, differences in administrative timetables, strongly held opinions, etc., will, over time, take their toll.

5. Tax harmonization has a lower order of priority than almost any other objective that moulds a provincial PIT. Sometimes, problems of taxpayer compliance brought about by widening divergences will push governments into greater parallelism in their tax laws. This is remedial rather than perventive action. A government will sometimes find it convenient to abrogate features of the PIT brought in by a preceding government, especially if it is of a different persuasion. What is a change in policy may be labelled 'harmonization' to minimize controversy. However, it should be apparent that, in the absence of any institutional mechanism working towards harmonization, references to harmonization express pious wishes rather than policy objectives.

CHAPTER 4- ADMINISTRATIVE COSTS

1. The general conclusions arising from the foregoing analysis of costs

of administering a separate Ontario personal income tax system are abundantly clear, given the assumptions set forth at the beginning of the chapter. Because of the nature of the present Canadian personal income tax, the system would require a duplication of most of the administrative machinery that is already being used by the federal government in collecting the same tax from the same taxpayers. The cost of this additional Ontario administration would be on the order of $75-100 million annually, aside from start-up costs and a capital investment in buildings of some $60 million. There would be no noticeable decline in the costs of administering the federal personal income tax system. Administrative costs are therefore estimated to be about 45 per cent of compliance costs, if we compare the mid-points of the two ranges.

2. Ontario's PIT revenues in 1981 were $4,573 million. The mid-range of estimated administrative costs would therefore be about 1.9 per cent of Ontario PIT revenues.

3. The additional costs of collecting an Ontario PIT, including compliance and administrative costs, are estimated to be between $180 and $385 million.

CHAPTER 5 - TAXPAYER AND EMPLOYER COMPLIANCE COSTS

1. Quebec's experience with its own personal income tax system and Ontario's experience with its own corporate tax system both suggest that if Ontario were to introduce a separate PIT system it would:

   - initially introduce a PIT system that closely resembled the federal system with a relatively few variations;

   - with the passage of time, additional variations would be introduced in a succession of attempts to meet evolving political, social, economic, and bureaucratic objectives.

2. There would therefore be significant taxpayer planning and compliance costs. Some would be start-up costs; others would continue and presumably rise over time. These would include:

- the additional costs to individual taxpayers who gather together the receipts or other documentation necessary in support of a tax return, study the requisite forms and accompanying information, and carry out the computations involved in order to complete their own returns;

- the additional out-of-pocket costs to those who engage professionals to complete their returns on the basis of the data supplied;

- the additional costs to businesses that provide their employees with professional tax advice as part of their employee benefit packages;

- the additional costs to businesses of modifying their payroll systems in order to withhold PIT deductions at source for their employees.

3. Assuming that no drastic change in present tax policy would be introduced through an Ontario PIT system, it is estimated, on an admittedly crude basis, that the marginal increase in compliance costs would probably fall within these ranges:

- for individuals	$75-225 million/year
- for employers	$30-60 million/year
	$105-285 million/year

4. There would also be a start-up cost to employers of $30-60 million in the first year.

5. In 1981, Ontario PIT revenues were $4,573 million. The estimated cost of compliance under a separate Ontario PIT would therefore be about 2.3-6.0 per cent of revenues.

6. The mid-range of the estimated compliance costs is equal to roughly 224 per cent of the mid-range of the estimated direct administrative costs provided in Chapter 4.

CHAPTER 6 - A CONCEPTUAL FRAMEWORK AND SOME QUANTITATIVE ESTIMATES: A BASIS FOR THE ECONOMIC ANALYSIS AND ASSESSMENT

1. The estimates of the increase in potential GNP range from $3,700 million (in the case of a 10 per cent increase in investment expenditures) to $182 million (in the case of a 1 per cent increase in the savings rate). In comparison with an economy which would average $219,000 million in 1994 and 1995, these figures are relatively small. Two questions are relevant here. First, the implicit investment stimulus necessary to elicit a 10 per cent increase in the investment expenditures may be so large that the other implicit tax changes, which were assumed to offset the revenue implications, must also be large. If this is the case, then estimates will be biased upwards at the higher end of the ranges. Second, how relevant is a concept based on estimates of GNP in 1994 and 1995? In part, the answer lies in the fact that the simulations represent controlled experiments. Therefore, provided the model accurately represents the economy, the percentage differences will yield an accurate estimate whether the 1995 real GNP estimate is realized or not.

2. The discussion and the results of the previous sections show that potential GNP - albeit one measured by a proxy - can be increased on the assumption that government tax revisions will either increase the participation rate, the savings rate, or investment expenditures, or decrease the user cost of capital. As indicated in this paper and in other chapters, it is uncertain whether these results will actually occur, and if they do occur how strong the effect will be. This was demonstrated in the results by presenting a range of responses.

3. The definition of potential GNP by its very nature makes potential GNP a long-run concept. Therefore, any policy adoption designed specifically to stimulate potential must be recognized as a long-run goal. This is particularly true in certain cases, such as an increase in the labour supply, where the policy might be destabilizing in the short run. Potential GNP is useful if we think of it as an upper bound on aggregate expenditures beyond which inflationary pressures will develop. It then represents the output level to which short-run aggregate demand policies should be targeted. If further additions to

output without increasing the inflation rate are desired, then potential GNP must be increased. This paper demonstrates that potential GNP can be raised through tax manipulation but that the results are not dramatic. Given this finding, government policy decision makers should consider the effect proposed tax revisions will have on potential GNP but not adopt potential as their sole target.

CHAPTER 7 - STABILIZATION POLICY ISSUES: AN APPRAISAL OF POSSIBLE ROLES OF FLEXIBLE FISCAL POLICIES IN ONTARIO

1. Stabilization policy is feasible for the Province of Ontario, with relevant Ontario expenditure multipliers about two-thirds of the national multipliers and Ontario personal income tax multipliers about 60 per cent of the corresponding national multipliers.

2. General income tax changes, such as changes in the basic rate of personal income tax, are dominated by expenditure changes in terms of their impact on aggregate provincial demand. More selective tax measures, such as sales tax changes focussed on Ontario products, would also likely dominate general personal income tax changes in this respect.

3. Adoption of a separate PIT would permit introduction of more selective income tax measures.

4. Adoption of a separate PIT would facilitate implementation of supply-oriented policies (or permit demand management to be conducted with more of an eye to supply-side consequences).

5. Adoption of a separate PIT would not seriously affect the federal government's stabilization powers. Only the leverage of federal tax measures that affect 'basic federal tax' under the existing system would be reduced. This reduction in leverage could be readily offset by appropriate changes in the federal tax rate schedule.

6. The principal risk in the adoption of a separate Ontario PIT is that the province would be tempted to use more selective tax measures designed to attract demand (and to attract capital) from other prov-

inces. This could trigger retaliatory measures by other provinces or indeed by the federal government itself. In the context of stabilization policy, where timing and credibility are critically important, such intergovernmental jockeying could reduce the net effectiveness of the policies adopted by the various levels of government.

7. The flexibility of the existing joint system would be increased if the following steps were taken:

   a. Provinces were permitted to opt for a separate provincial tax rate schedule. Under this option, provincial taxes would be calculated on net income, and the exemptions, rates, and brackets would be determined by the province.

   b. All regionally non-discriminatory personal income tax credits were permitted. For example, savings and investment credits that did not discriminate against assets in other provinces would be allowed.

   c. Tax credits or surcharges applicable by type of income (business income attributed to the province, property income, or employment income) were permitted. This would, for example, enable tax reductions for certain classes of corporate business income to be paralleled for unincorporated business income.

   d. Regionally non-discriminatory deductions from taxable income were similarly permitted. This would, for example, permit the province to allow individuals to deduct the additional half of the first year CCA from their business or property income.

8. If items (a) through (d) above were all implemented, each cooperating province would obtain most of the flexibility of a separate PIT. What it would <u>not</u> get is freedom to impose regionally discriminatory tax credits or deductions, or the ability to tax sources of income not included (or partially exempt) in the federal income tax base, and conversely.

   The federal government would presumably want to ensure that any such credits were established on a regionally non-discriminatory

basis. This would preclude Ontario from introducing tax credits designed to attract investment from other provinces to Ontario. It can be argued that regionally biased policies are not in the long-run interest of Ontario in any case. The welfare losses from a system of discriminatory tax incentives are non-trivial; the potential political fallout is serious, and Ontario with its central location has an interest in the maintenance of the Canadian common market in both products and factors of production with as little interference by provincial governments as possible.

CHAPTER 8 - LABOUR SUPPLY

1. There is some initial evidence that migration is responsive to taxes. But research on tax-induced migration is still in the initial stage. The scarcity of research and the preliminary nature of the existing evidence preclude firm conclusions on the expected magnitude of PIT changes on Ontario migration flows. However, rough calculations can be made if the more highly developed literature on income-motivated migration is also used. The best guess, using the estimates of the income-responsiveness of migration (and ignoring potential effects on in-migration to Ontario), is that a tax change producing, on average, a 1 per cent decrease in income earning opportunities in Ontario would increase the annual outflow from the province by fewer than 1,000 people. In 1981, this change would increase the net outflow of Ontario residents to other provinces from 21,000 to 22,000 thousand (in 1981, the inflow to Ontario from other provinces was about 69,000 and the outflow was about 90,000). Such migration would occur disproportionately in groups with higher mobility, such as younger, more highly educated workers. The effects of this potential migration on Ontario are unlikely to be substantial. That is, the size of the migration response, while not trivial, is small enough and uncertain enough that it should not be regarded as a major constraint for PIT policymakers.

2. Educational training decisions are affected by the tax treatment of the returns and costs of these activities. But for both types of 'investment in human capital', specific provincial tax effects are dominated by more general influences. In the case of educational decision-

making, the uncertainty in the returns to education, the substantial intangible component to these returns, and the hodge-podge of tax policies for costs and returns each produce different, and often conflicting, effects on the extent of investment undertaken. A change in the current system that would theoretically provide an unbiased investment choice for individuals would be to institute taxes on the present value of lifetime income, rather than on annual income. The recent changes in income-averaging provisions are a move away from this concept. Although an education credit would represent a deviation from the somewhat attenuated federal principle of tax-refund based credits, such an extension of the provincial credit option may not be entirely unfeasible. In any case, similar encouragement to educational investment could doubtless be produced more directly via provincial support of educational and training institutions or existing scholarship and work-sharing programs.

In summary, taxes have identifiable, but inexact effects on the investment decision regarding education and training. The complexity of the tax effects partially precludes a clear determination of the extent and direction of these effects. Drawing on both the theoretical and the scanty empirical evidence, the conclusion is that the PIT system does not discriminate significantly against human capital investment.

3. The research on tax effects on labour supply provides several major findings. First, the male labour supply is generally quite unaffected by tax changes. Overall, the most likely effect of increasing taxes on the male labour supply is a small increase in hours of work. Second, a much larger tax-sensitivity is found for married women. For this labour force group, the supply of hours to the labour market would decrease by 5 per cent if taxes caused a 10 per cent decrease in income. In addition, it is clear that costs of entry into the labour market are a significant deterrent to labour force participation. Tax treatment of these costs, particularly child care expenses, can thus be used to affect labour force participation. Finally, the research on labour utilization suggests that substantial tax distortions may result from the tax-sensitivity of labour supply, quite apart from its other effects. Very preliminary calculations suggest that the 'Laffer Curve effect' does not represent a serious constraint for Ontario policy-makers.

4. The general conclusion of this chapter is that labour supply considerations are important. Nevertheless, the limited information available from the best current research suggests that the labour supply effects of likely PIT changes are uncertain and probably fairly small. The labour supply distortions of the current PIT do not provide a rationale for major PIT alterations, with the possible exception of changes in the treatment of child care expenses.

CHAPTER 9 - SAVINGS AND INVESTMENT IN A SMALL, OPEN ECONOMY

1. By international standards, the Canadian-Ontario economies are both small and open - in contrast to, say, the American economy, which is large and comparatively closed. As a consequence, PIT features that conceivably might be effective in increasing personal saving and/or corporate capital formation in the United States are unlikely to be effective here except under special circumstances.

2. In particular, changes in total domestic saving (conceivably resulting from increases in personal saving induced by PIT provisions not offset by reduction in other kinds of saving) would not appreciably change the spectrum of market rates of interest, since the crucial determinant is the spectrum of international rates. More or less Canadian saving would, however, affect the extent to which Canada is a net borrower or lender internationally. This is not immaterial in terms of our current standard of living and that of future generations. However, except under special circumstances, it has little to do with the current level of capital formation in Canada or in Ontario. In a fully employed economy operating at its potential, a reduced dependence on foreign saving necessarily entails either a lower current rate of capital investment (lower growth) or reduced current consumption (lower standard of living).

3. By the same token, although with slightly less certainty, one can assert that the cost of equity capital in Canada is greatly affected by these international interest rates and by the fact that the marginal purchasers of Canadian equities may, in many instances, be non-residents unaffected by Canada-Ontario PIT changes. There is a high probability, although not a theoretical certainty, that PIT

changes that increased the after-tax rate of return on Canada-Ontario equity investments would not - again, except in special circumstances - lower the cost of equity capital as a means of stimulating investment.

4. The implications for the analysis of the pros and cons of a separate Ontario PIT are clear: provisions in a separate Ontario PIT designed to increase personal saving, even if successful in increasing total saving (a doubtful proposition), are most unlikely to significantly stimulate capital investment in the province - even if there were no retaliation by other jurisdictions. By the same token, Ontario PIT provisions designed to reduce the user cost of capital by lowering the cost of equity finance are unlikely to be effective except possibly for small and medium-sized corporations, whose shares have an exceedingly narrow market and about which few investors have much information. And here there are direct, simple subsidy measures outside the tax system, such as the Small Business Development Bonds discussed in Chapter 13, that are probably more cost effective.

CHAPTER 10 - PERSONAL SAVING AND PENSIONS

1. Is the level of saving in Ontario too low? If so, could the problem be alleviated by changes in the provincial component of the PIT? A concern with savings rates is often expressed but rarely justified. In some cases, concern expressed in Canada seems to be simply an echo of concern being expressed in the U.S., which may or may not be relevant to Canada.

2. Concern in the U.S. was initiated by the sharp fall in the U.S. private saving rate during the seventies. It was argued that these low saving rates would lead to reduced capital formation, which, in turn, would stifle growth, reduce labour's share of income, and reduce international competitiveness. In addition, lower saving rates induced by tax distortions and public pension plans would reduce household welfare below that actually attainable.

3. On the surface, it seems odd that concerns about deficient saving should also be expressed in Ontario. Measured saving rates in Canada

are high by historical standards and in comparison with those in other developed economies (see Appendix 10C). Moreover, Ontario's saving rate is one of the highest among provincial rates. Nevertheless, as shown by several recent studies, conventional measures of saving seriously overstate private saving rates in an inflating economy. When adjusted for inflation distortions, true Canadian personal saving rates (personal saving as a fraction of disposable personal income) are on the order of 6-7 per cent rather than the unadjusted rates of 10-11 per cent. Moreover, government dis-saving has been greater in Canada than in the U.S., although the magnitude of this dis-saving is biased upwards by inflation. Finally, dis-saving in the form of depleting resources is greater in Canada than in the U.S., although such dis-saving is never counted as such.

4. Despite these adjustments, the Canadian saving rate has not shown a significant downward shift, as it has in the U.S. Thus, any concern about the Canadian saving rate is based on the presumption that it should be higher than it is rather than on an observed decline. Because saving more requires consuming less, an assertion that saving should be encouraged needs to be supported with good reasons. Three possible reasons are considered below.

   - Higher saving yields high investment, which is important for growth, etc. This statement is highly questionable. First, it is necessary to demonstrate that investment is too low on a long-term basis. More important, in a small, open economy such as Ontario, the saving and investment decisions are quite distinct. If Ontario saving were insufficient to finance all profitable Ontario investments, financial resources from outside the province could (and almost certainly would) be obtained through borrowing, except in the special circumstances alluded to in Chapter 9. More personal saving by the residents of Ontario would not materially alter the rate of capital formation in the province - a point explained in the previous chapter and elaborated upon in the next chapter.

   - More personal saving is desirable (in periods of full employment) because, unless it were offset by reductions in other forms of

domestic saving, it would make future generations more wealthy than they would otherwise be. This is either a non-economic argument, about which nothing useful can be said here, or it is an argument that the prevailing level of interest rates, which is largely internationally determined, does not reflect the time preferences of Ontario residents. Interest rates are 'too high' in some sense, with the result that future benefits are discounted too heavily. There is no evidence to support this contention, and it is difficult to see how the proposition could be proved or disproved.

- The taxation of capital income magnified by inflation distortions has severely reduced the after-tax real return on saving, thereby inducing households to save less than is socially optimal. This is the basic case made for reforms of the PIT with respect to saving. We have emphasized that this is less of a problem in Canada than in the U.S., because there are many tax provisions that move the Canadian PIT towards an expenditure-cum-labour income base. In many cases, therefore, the PIT does not reduce the after-tax real return to savers. In fact, on sheltered saving (RSPs, RRSPs, RHOSPs, and for households having less than $1,000 unsheltered investment income), the real interest rate in Canada is very high. Finally, while increasing the after-tax real return on saving might raise future consumption, it might also raise or lower personal saving, because with higher after-tax returns less need be saved to achieve the same level of future consumption.

5. In other words, the question boils down not to whether there is too little saving, but to whether the remaining disincentives to future consumption should be removed from the provincial share of the PIT. The answer to this question is unknown, but we make the following observations.

- While the income tax may discourage unsheltered saving (although on the basis of the evidence this is not proven) by reducing after-tax returns, it encourages saving by favouring early retirement (leisure) over working. It is uncertain whether there

would be a welfare gain in going all the way to an expenditure tax with a provincial PIT.

- Even if there were welfare gains they would probably be small, since an Ontario PIT could only undo the tax on the provincial share (about 1/3) of unsheltered saving (say 1/2). This amounts to 1/6 of Ontario's personal saving and therefore 1/6 of the conceivably lost output because of the distorting effects, assuming all Ontario saving is 'double taxed'. Total unsheltered Ontario saving is probably between $1.2 and $6 billion. Therefore, the welfare gain (increased output resulting from removing the distortion) from reforming the provincial PIT could conceivably be between $200 million and $1 billion at most, not large amounts relative to provincial aggregate income.

- As mentioned in the Introduction in the discussion of 'grand' tax schemes, most serious proponents of the substitution of consumption expenditure taxes for comprehensive income taxes recognize the necessity in equity of simultaneously adopting progressive rates of tax for those with the highest expenditures and some form of tax on wealth transfers. However, neither of these supplementary measures seems likely to be acceptable to Canadian advocates of a move to an expenditure tax base. Moreover, such a shift would pose enormous transitional problems. Many people who were middle aged and beyond at the time of the change would have had a part of their investment income (savings) taxed under the previous tax regime. To now adopt a system that taxed consumption rather than comprehensive income would be to hit them twice. The transitional provisions would have to run for a generation.

6. The interjurisdictional implications of an Ontario personal consumption tax, as a substitute for an Ontario PIT, have not been investigated. However, the interested reader should consult Chapter 11 on 'Corporate Investment' and Chapter 14 on 'Interprovincial Economic Barriers and Tax Harmonization'. There can be little doubt that the problems and complexities would be substantial.

CHAPTER 11 - CORPORATE INVESTMENT

1. The full integration of PIT and CIT for Ontario residents could have a favourable effect on capital investment and economic growth if five important assumptions, among others, were to hold:

   (a) The marginal investor in Ontario corporate shares is both a resident of the jurisdiction and has a relatively low marginal PIT rate.

   (b) The increase in the after-tax return on Ontario corporate shares is fully capitalized in the price of the shares and the user cost of capital to Ontario-based corporations consequently declines.

   (c) The elasticity of corporate fixed capital formation with respect to the user cost of capital is significantly large.

   (d) Other jurisdictions do not retaliate by, for example, imposing withholding taxes on the 'foreign' source income of Ontario investors or by refusing to credit Ontario corporate tax for their own residents receiving dividends by virtue of holding shares in Ontario corporations. Such retaliatory measures would largely nullify (or worse) the effect of the PIT-CIT system in Ontario.

   (e) The potential net benefits from an Ontario PIT-CIT integration previously identified are not offset, or more than offset, by the heavy transactions costs necessarily involved in dealing with the several serious 'technical' problems cited above.

2. The validity of these assumptions (and of those specified earlier, with respect to the experiment with the TAX model) is either not known or, as is true in the case of (a), not knowable. There is a significant probability that several of the testable assumptions would prove to be false, or largely false.

3. On the other side of the ledger, an experiment with the TAX model suggests that a system of investment tax credits that could be introduced under the existing separate Ontario CIT (admittedly this would

not offer a solution to unincorporated businesses in Ontario) would be substantially more cost effective per dollar of revenue forgone, more certain in its effect, and immensely superior from an administrative-compliance cost point of view to an integration of CIT and a separate Ontario PIT.

4. Thus, there seems to be little if any economic justification for the adoption of a separate Ontario PIT as a means of stimulating corporate capital formation in the province. Indeed, on the basis of our results, the cost effectiveness of the existing federal-provincial dividend tax credit system is called into question.

CHAPTER 12 - THE TAXATION OF CAPITAL GAINS

1. As was discussed in Chapter 10, the empirical evidence is not consistent with the assertion that there is a strong positive relationship between the after-tax rate of return on investment income and the rate of personal saving. The partial inclusion of capital gains in the PIT base therefore may or may not increase personal saving - we simply do not know. Nor do we know if increases in personal saving would be offset by reductions in other forms of domestic saving.

2. In any event, because Canada-Ontario interest rates are strongly influenced by international changes, changes in domestic saving have relatively little effect on the rate of capital formation. Rather, at full employment, they alter our degree of reliance on foreign saving.

3. When the marginal investors in Canadian equities are Canadian residents, widening the PIT to partially include capital gains lowers the after-personal-tax rate of return on investment. This is at least partially capitalized in lower share prices. This in turn raises the cost of finance and the user cost of capital, with a consequent reduction (of unknown extent) in real capital formation.

4. Because the Canada-Ontario economies are small and open, there is a reasonably high probability that domestic share prices are little affected by Canada-Ontario PIT changes.

5. The partial taxation of capital gains through PIT, assuming they are not capitalized and do not alter domestic saving can, however, have a wealth effect and induce portfolio composition changes. However, if the inclusion of gains in the base is offset by rate or other changes so that total revenues are unaffected, the negative wealth effects on those with capital gains will be offset by the positive wealth effects on those paying lower taxes.

   Assuming that revenues have to be maintained, the removal of all capital gains from the base would necessitate higher marginal rates or other offsetting base changes that are as likely to have effects as deleterious as the partial taxation of some capital gains.

6. It is by no means obvious, therefore, that the net economic effects would be positive.

7. This is not to claim that the present treatment of capital gains is satisfactory. There are serious deficiencies with respect to the treatment of capital losses and income averaging (a problem that could be resolved through adoption of a flat rate of PIT - as discussed in the Introduction). Last and certainly not least, the failure to take inflation into account has created serious problems heretofore. (See the Lortie Committee Report, alluded to earlier.)

8. The elimination of the partial taxation of some capital gains would almost certainly give rise to demands for a tax on net worth and some form of taxation on death. It seems to be forgotten that the present treatment of capital gains was 'exchanged' for the complete federal withdrawal from the death tax field.

9. Because the Ontario average rate of PIT is roughly one-third of the combined Canada-Ontario PIT rate, and because, in effect, capital gains are only taxed at half rates (with certain important exclusions), the adoption of an Ontario PIT for the purpose of eliminating capital gains from the PIT could only, on average, reduce the ratio of tax on such gains by one-sixth. Given the substantial uncertainties concerning the effects of changes in after-tax rates of return on saving and investment, it would be difficult to argue for such a change on economic grounds.

10. As was suggested in Chapter 8, there is some doubt (though not much) concerning the effects of tax differences on labour mobility (a complex question, since tax levels are associated with local economic conditions and/or the provision of government services). There is no doubt, however, that capital is extremely mobile.

    A move by Ontario to eliminate the tax on capital gains following the adoption of a separate PIT would almost certainly be followed by offsetting or retaliatory policies by other jurisdictions. The end result would be no net advantage to Ontario, a reduction in the size of the provincial-personal income tax bases for all provinces, and higher PIT rates or other tax increases with no perceptible economic advantage provincially or nationally.

CHAPTER 13 - INVESTMENT FINANCING INCENTIVES FOR NEW AND SMALL ENTERPRISES

1. The Ontario Small Business Development Corporations Program provides an effective way of providing subsidies to offset the effects of tax distortions and capital market imperfections. Together with the low rate of corporate tax on income of small Canadian-controlled private corporations, the SBDC program meets the most critical needs for subsidies that might alternatively be built into an independent Ontario personal income tax.

2. There are potential improvements to the personal income tax that would eliminate the distortions remaining for investments in small businesses that are not made through SBDCs. The most desirable reform would be to allow unrestricted deductibility of allowable realized capital losses to exceed unrealized gains accrued on other capital assets owned by the investors. However, as with SBDCs, programs of direct grants to individuals who invest directly in small ventures could be devised that would achieve the same objective.

3. In terms of targeting individual corporations, regions, and product types, as well as hitting marginal investment rather than investment which would have taken place anyway, it would seem that specific expenditure programs, such as those run through the ODC and its Quebec counterpart under the Quebec Business Development Act, are

preferable. The mere existence of the Quebec program and its funding level indicate that PIT programs are not viewed as necessarily better substitutes for this type of expenditure program even when (as in the Quebec program) the expenditures are taxable federally. Furthermore, where expenditures programs have been introduced as substitutes for programs run through the federal tax collection system, they have often been able to escape federal taxation.

4. The benefits to be derived from an independent provincial income tax in the form of an enhanced ability to deliver investment incentives are, on balance, relatively marginal. They do not provide much support for the establishment of a separate personal income tax system in Ontario.

CHAPTER 14 - INTERPROVINCIAL ECONOMIC BARRIERS AND TAX HARMONIZATION IN A FEDERAL STATE

1. A greater degree of provincial autonomy with respect to the PIT would be consistent with the federalism goal of providing substantial autonomy and hence interprovincial diversity. This diversity, assuming it reflects reasonably different tastes, may bestow significant social benefits. Against these benefits have to be weighed the largely unknown efficiency costs: for there are costs that can arise from an interprovincially inefficient allocation of resources over and above the direct administrative and compliance costs estimated earlier in this report.

2. The economic well-being of the average Canadian would be maximized, in the absence of market imperfections, by the maintenance of a common national market for all goods, services, labour, and reproducable real capital. There is a high probability that attempts by particular provinces to offset actual market imperfections that bear more heavily on them than on other provinces will often generate retaliatory moves that will make everyone worse off. There are usually superior direct, non-tax means available for the correction of market imperfections that do not involve the same strategic risks as PIT modifications.

3. Interjurisdictional migration can be thought of, for present purposes, as the consequence of two considerations: interjurisdictional differences in factor prices (or opportunities, in the case of labour) and differences in net fiscal residuals - the difference between the satisfaction obtained by the resident from government-provided goods and services less the satisfaction forgone because of the tax burden imposed on the same individual. When labour and capital relocate interjurisdictionally in search of higher returns, economic efficiency is usually enhanced. However, migration induced by interjurisdictional net fiscal residuals will perversely distort this market allocative process and reduce economic well-being.

When the net fiscal residuals differ among jurisdictions, the effect is the same as would be achieved by driving 'tax wedges' of different sizes between the before- and after-tax rates of return to factors on a jurisdictional basis: after-tax rates of return are equalized, although efficiency requires that before-tax rates of return be equalized.

Interprovincial PIT differences (some of which exist now) may contribute to interprovincial net fiscal residual differences and thus may contribute to the economic misallocation of resources. (It should be borne in mind, however, that, as stated earlier, interjurisdictional diversity is the raison d'être of a federal system and can confer benefits, although they are difficult to value in dollar terms.) The extent of the difference in NFRs is an empirical question about which little is known, as is the elasticity of mobility to the NFR differences (but see Chapter 8).

Although not ideal, particularly as it applies to provincial natural resource revenues, the existing system of federal equalization payments, which provides unconditional transfers to the poorer provinces, does much to mitigate the allocational problems presumably posed by interprovincial NFR differences.

4. 'Tax harmonization' has little economic justification as an objective when the concept is interpreted narrowly, as the foregoing discussion of the implications of interjurisdictional net fiscal residuals for separate provincial PIT systems made clear. There is a remarkable degree of harmonization across the provinces for both PIT and CIT, brought about by the federal insistence on a common tax base for PIT

in provinces that are signatories to the collection agreement (in whole or in part). Certainly there is virtually nothing to be accomplished by seeking to harmonize rates if bases differ, because it is the effective rates that matter - ideally this must be looked at in terms of the all inclusive concept of NFRs.

5. To avoid the adoption of 'beggar thy neighbour' tax changes, and the administrative-compliance costs of entirely separate systems, a strong case can be made that a continuing federal-provincial coordinating committee should be established that would have as its sole responsibility the better realization of horizontal and vertical coordination of tax changes (rates and bases). The federal government and the provinces should have equal weight in the deliberations of this body. Such an arrangement has been needed for many years. It would be even more necessary if the provinces were given greater autonomy under a joint collection agreement system, and it would, of course, be of crucial importance if more provinces, perhaps led by Ontario, were to adopt their own completely separate PIT systems.

CHAPTER 15 - THE TAX-TRANSFER TREATMENT OF FAMILIES IN ONTARIO AND QUEBEC

1. There are several programs and combinations of programs that Ontario could implement to alter the tax and transfer treatment of families. A number of suggestions are made. If Ontario administered its own personal income tax, it could implement a scheme along the lines of a credit income tax (Credit IT). This system would provide a substantial personal tax credit for each individual, few or no deductions, and a constant (or flat marginal rate) of tax. A guaranteed income would automatically be provided, since people with zero income, for example, would receive at least the amount of the credit. A credit income tax could greatly simplify the treatment of families, since, as was noted earlier, a refundable tax credit can be equivalent to a taxable family allowance and exemption. Thus, it could replace the family allowance, the child exemption, and the existing refundable child tax credit.

   Other alternatives, within a provincially administered income tax

system, are provided by the Quebec treatment of families. For example, the exemption for dependent children could be reduced, applied to only older children, or completely eliminated. Also, the refundable child tax credit could be altered or removed.

Because the cost of administering its own personal income tax would be significant for Ontario, and because even with an Ontario Credit IT system the weight of the Ontario PIT is insufficient to induce taxpayers to alter their behaviour if the federal system remains unchanged, it is probably more meaningful to consider alternatives that Ontario could pursue within the existing system. Much can be done on the transfer side - family allowances could be varied according to age of children and family size and provincial programs could be revised, enhanced, or changed.

2. On the tax side, the province has in place a mechanism by which to provide a guaranteed minimum income through provincial tax credits. Currently, there are credits against income taxes for property tax payments, sales taxes, pensioners, and home heating costs. A flat amount is allowed (based, to some extent, on the expenses incurred on each of the above), less a percentage of taxable income. Because the credits are reduced as income increases, they are probably progressive in incidence. As is shown in Appendix 15A, for a single person the credit reduces to zero at an income level of $20,000. In the case of families (not shown in Appendix 15A), the reduction in the credit is based on a percentage of taxable income for the highest income earner.

3. Provincial tax credits could be used to improve the progressivity of the personal income tax, to provide a guaranteed minimum income, and to alter the tax treatment of the family (though current credits do not specifically address the family). It should also be possible to expand the provincial tax credits to arrive at a system that more closely approximates a credit income tax but still fits into the federal tax structure.

4. In essence, therefore, the tax and transfer treatment of the family in Ontario could be significantly altered within the existing personal income tax system. This could be done specifically by changing

transfers, by altering the federal family allowance and/or introducing a provincial program, and by re-working provincial tax credits (to reflect family circumstances). All of these areas require further study, particularly with respect to the harmonization of Ontario changes with the systems in other jurisdictions. The geographic mobility of persons consequent upon such changes also needs to be explicitly considered.

CHAPTER 16 - THE POTENTIAL USE OF PIT FOR MUNICIPAL-FISCAL GOVERNMENT FINANCING

1. This chapter has attempted to present the issues involved in allowing municipalities to piggyback onto provincial personal income taxes. It was pointed out that such a scheme would have advantages for municipal governments, the province, and individual taxpayers. Municipal governments would have a steadily increasing source of revenue that would supplement the often criticized property tax. Even if the surcharge were to replace provincial grants, municipal governments would benefit from a certainty with respect to revenues that grants currently do not provide. The province would benefit from an earmarked tax because the funds for provincial-municipal transfers would always be available. Finally, the impact on individual taxpayers is less clear. If the surcharge were to replace property taxes, taxpayers would benefit from the shift to a more progressive tax. However, the final outcome would depend on how the funds were distributed back to municipalities and how the money was spent.

2. It has been argued in this paper that a uniform surcharge scheme distributed to municipalities on the basis of an equalization formula which took needs and fiscal capacities into account would be desirable. Although it is felt that there is still an important role for the property tax in financing hard services, income tax revenues could be used to finance some of the soft services. Education, in particular, is not property-related and would thus be more appropriately financed through an income tax.

3. It would seem most likely that any scheme introduced in Ontario, at least at the present time, would be one which replaced some portion

of existing conditional and unconditional grants. Although this would not provide additional funds to municipalities, it would nevertheless give them access to a growth tax.

4. The piggyback scheme for municipalities recommended in this chapter would not require that the province have a separate personal income tax. Quite apart from the issue of a separate provincial PIT, a surcharge for municipalities is not only feasible but advisable. Given the absolute chaos which characterizes provincial-municipal grants in Ontario today, this might be an appropriate time to replace them with a simple piggyback scheme, distributing revenues back to the municipalities through a simple grant formula.

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